Borough of Brighton.

ANNUAL REPORT

ON THE

HEALTH,

SANITARY CONDITION, &c.,

OF THE

BOROUGH OF BRIGHTON,

FOR THE YEAR 1899.

BY

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BOROUGH OF BRIGHTON.

Sanitary Committee.

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A. L. ORMEROD, M.B., D.P.H. OXON., May-Oct., 1899.
H. HEWITT, M.B. LOND., D.P.H., Nov. 1899-April, 1900.

Chief Inspector of Nuisances.

JAMES F. SKINNER (Certif. San. Institute).

Medical Officer of Health: ARTHUR NEWSHOLME, M.D. Lond.

PREFACE.

Town Hall.
March 23rd, 1900.

To the Sanitary Committee of the Brighton Town Council.

Gentlemen,—

I beg to present herewith my report for 1899. The year has been one of work at high pressure throughout its entire course. The circumstances causing this will be gathered from a perusal of this report. The year 1899 will long be remembered throughout a large portion of England and Wales, on account of the excessive amount of Scarlet Fever and Diphtheria which occurred in it. The causes of this excess are not far to seek. The climatic conditions were such as specially favour these two diseases, as well as Infantile Diarrhœa, which was unusually fatal; and there was a large number of ill-marked cases, which were not recognized at an early date, some not at all. Notwithstanding these facts, it is satisfactory to know that at no part of the year was there any public alarm, and that we were able without the slightest interval to admit all cases requiring isolation to the Sanatorium. The work at this Institution has been very heavy, and I cannot speak too highly of the skill and devotion with which the matron and staff of nurses, as well as the engineer and disinfector, have carried out their duties. I wish also to mention particularly the admirable manner in which Inspector Norrish, the special inspector in regard to Infectious diseases, has carried out his extremely arduous work, often stretching late into the night. He has been well assisted by Inspector Salvage, who has more than justified his promotion from the rank of disinfector.

I beg also to thank you for the cordial support which you have always accorded me in carrying out my work, which has greatly diminished the anxiety necessarily associated with it.

I am, Gentlemen,

Your obedient Servant,

Arthur Newsholme, M.D.

Medical Officer of Health.

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A.—VITAL STATISTICS.

POPULATION.

The population of the County Borough of Brighton at the middle of 1899 is estimated by the Registrar-General to be 123,227. This estimate is based on the assumption that the rate of increase during the decennium 1881-90, is being continued in the present decennium.

During 1899, 373 new dwelling-houses were passed by the Borough Surveyor's Department, as compared with 324 in 1898, and 412 in 1897. These were situate in the following Wards :—Kemp Town 15, Lewes Road 52, Pier 3, Queen's Park 42, Pavilion 2, Hanover 5, St. Nicholas 1, St. John's 1, Preston 128, Preston Park 129.

In Table III. an estimate of the population in each ward is given, and on this estimate are based the death-rates in each Ward given in Table IV. Such an estimate can necessarily only be approximately accurate.

BIRTHS.

The total number of births registered in the Borough in the 52 weeks ending December 30th, 1899, was 3,058,—1,523 of boys and 1,535 of girls. This is equivalent to a birth-rate of 24·8 per 1,000 inhabitants. The birth-rate of the thirty-three great towns was 30·2 per 1,000, that of London being 29·4. Brighton had the lowest birth-rate among the great towns, with the exception of Huddersfield, Halifax, Bradford and Oldham. For a comparison of the birth-rate with that of previous years see Table I.

Of the births, 181 were of illegitimate children, forming 5·9 per cent. of the total births, as compared with 6.2 per cent. in the previous year. 55 births occurred in the Workhouse, of which 46 were of illegitimate children.

TABLE I.—*Comparison of Births and Deaths in Successive Years.*

Years.	Births.	Birth-Rate per 1,000 inhabitants.	Deaths from all Causes.	Death-Rate per 1,000 inhabitants.	Death-Rate from the seven chief Infectious Diseases per 1,000 inhabitants.	Death-Rate under one year of age per 1,000 births.
1882	3284	30·2	2372	21·8	4·40	187
1883	3236	29·6	2131	19·5	2·50	160
1884	3248	29·1	2064	18·8	1·77	162
1885	2981	26·9	1952	17·6	1·43	132
1886	2957	26·5	1986	17·8	1·97	160
1887	3038	27·0	1988	17·7	2·33	148
1888	2791	24·6	1928	17·0	1·42	149
1889	2964	26·0	1833	16·1	1·60	131
1890	2915	25·4	2232	19·1	2·57	164
1891	3031	26·2	2097	18·2	1·06	137
1892	2958	25·1	2232	18·9	2·09	151
1893	2981	25·3	2165	18·4	1·84	169
1894	3055	25·8	1943	16·4	1·20	137
1895	3057	25·6	2250	18·8	1·72	164
*1896	3025	25·1	1975	16·1	1·66	124
1897	2986	24·6	1823	15·0	1·54	144
1898	3035	24·8	2057	16·7	1·69	179
1899	3058	24·8	2322	18·9	2·49	173

*53 weeks.

DEATHS.

During the year 1899, 2,322 deaths were registered as belonging to Brighton, 1,140 of males and 1,182 of females. This shows an annual death-rate of 18·9 per 1,000 of estimated population, as compared with 16·7 in 1898, and 15·0 in 1897 (see Table I.).

The general course of the death-rate since 1875, when Preston was incorporated into the Municipal Borough, has been as follows:—

		Death-rate from all causes.
Three years	1875-77	20·5.
,, ,,	1878-80	20·3.
,, ,,	1881-83	20·2.
,, ,,	1884-86	18·0.
,, ,,	1887-89	16·9.
,, ,,	1890-92	18·7.
,, ,,	1893-95	17·9.
Four ,,	1896-99	16·7.

It will be observed that, although there has been a temporary check in the reduction of the death-rate, the lowest average death-rate occurred in the period 1896-99. A study of Table I. will show that the amount of this check has varied from year to year; the explanation of it will be evident from the following table.

TABLE II.

Year.	No. of Deaths from All Causes.	No. of Deaths from Influenza.	No. of Deaths from Respiratory Diseases.	No. of Deaths from Diarrhœa.
1889	1833	—	291	64
1890	2232	23	417	94
1891	2097	71	381	47
1892	2232	149	392	68
1893	2165	33	343	87
1894	1943	49	321	52
1895	2250	107	411	103
1896	1975	21	299	73
1897	1823	24	245	109
1898	2057	33	304	129
1899	2322	96	389	191

Thus in 1889, the death-rate from respiratory diseases (influenza not having appeared in our midst) was 2·4 per 1000 inhabitants, while that from diarrhœa was ·6 per 1000. In 1899, the death-rate from respiratory diseases and influenza was 4 per 1000, and that from diarrhœa 1·6 per 1000. Had these two groups of disease been no less prevalent in 1899 than in 1889, the death-rate could have been 16·2, slightly lower than that of 1889. Of these two causes of death Influenza is largely uncontrollable, Diarrhœa is partly caused by hot and

dry weather in the 3rd quarter of the year, which prevailed to a very exceptional extent during last summer (see further remarks pages 25 and 29).

WARD DISTRIBUTION OF DEATHS.

In the following tables the deaths and death-rate for the more important causes of death are given. Great difficulty has been encountered in arriving at an estimate of the population of each ward, and the figures given in the first column can only be approximately correct. After making all allowances for possible errors, the comparative death-rates given in Table IV. are very instructive.

TABLE III.

Ward.	Estimated Population.	Number of Deaths during 1899.									
		All Causes.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa.	Phthisis.	Other Tubercular Diseases.	Bronchitis and Pneumonia.
Kemp Town ..	7,205	102 (5)	—	1	1	—	—	3	6	2	12
Queen's Park ...	7,228	139 (30)	—	4	1	—	4	8	11 (2)	(1)	25(1)
Pier	11,928	245 (4)	—	4	2	—	2	20	27	—	39(1)
Pavilion	5,316	77 (2)	—	1	3	—	1	4	9	1	17
Regency	8,294	122	—	5	3	—	—	5	6	2	13
West	5,272	91	1	3	—	—	—	3	7	1	11
Montpelier ...	6,065	93(15)	(1)	1(2)	2	—	—	1	10 (1)	3	11
St. Nicholas ...	10,706	178 (1)	—	11	1	1	4	9	14	4	26
St. John's... ...	12,347	263	1	3	5	—	3	30	16	6	43
Hanover	10,935	245	1	4	1	—	1	40	19	4	39
Lewes Road ...	11,840	245	4	10	3	—	1	25	17	7	41
St. Peter's... ...	8,492	176	1	6	1	—	1	16	14	2	29
Preston Park ...	7,170	97	—	2	1	—	2	8	8	1	11
Preston	10,430	186 (6)	1	5	1	—	—	19	12 (1)	1	26
	123,227	2259(63)	9(1)	60(2)	25	1	19	191	176 (4)	34 (1)	343(3)

(Deaths in Public Institutions, &c., the home address of which was not stated, are given in brackets).

Thus the general death-rate varied from 13·5 per 1000 in Preston Park, 14·2 in Kemp Town, and 14·5 in Pavilion, to 21·4 in St. John's, and 22·5 in Hanover Wards. A portion of these differences may be due to the fact that in Wards like the Pavilion and Preston Park, there is a much smaller proportion of children under five, in whom the death-rate is much higher than during the working period of life. It will not be possible to make corrections for this possible error, except for the first year of life, until after the next census returns are obtained.

TABLE IV.—*Death-rates in the different Wards.*

Ward.	Annual Death-rate from									
	All Causes.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa.	Phthisis.	Other Tubercular Diseases.	Bronchitis and Pneumonia.
Kemp Town ...	14·2	—	0·14	0·14	—	—	0·42	0·84	0·28	1·68
Queen's Park	19·2	—	0·55	0·14	—	0·55	1·10	1·52	—	3·46
Pier	20·6	—	0·34	0·17	—	0·17	1·70	2·27	—	3·28
Pavilion ...	14·5	—	0·19	0·56	—	0·19	0·75	1·69	0·19	3·19
Regency ...	14·7	—	0·60	0·36	—	—	0·60	0·72	0·24	1·57
West	17·3	0·19	0·57	—	—	—	0·57	1·33	0·19	2·09
Montpelier ...	15·3	—	0·16	0·32	—	—	0·16	1·65	0·48	1·82
St. Nicholas ...	16·7	—	1·03	0·09	0·09	0·37	0·84	1·31	0·37	2·43
St. John's ...	21·4	0·08	0·24	0·41	—	0·24	2·44	1·31	0·49	3·51
Hanover ...	22·5	0·09	0·37	0·09	—	0·09	3·67	1·75	0·37	3·58
Lewes Road ...	20·8	0·34	0·85	0·26	—	0·08	2·12	1·44	0·59	3·48
St. Peter's ...	20·7	0·12	0·70	0·12	—	0·12	1·88	1·65	1·24	3·42
Preston Park	13·5	—	0·28	0·14	—	0·28	1·12	1·12	0·14	1·53
Preston ...	17·9	0·10	0·48	0·10	—	—	1·83	1·16	0·10	2·51
	18·8	0·08	0·50	0·20	0·01	0·15	1·55	1·46	0·28	2·81

We can, however, obtain a correct statement of the death-rates under one year of age, by stating them in terms of the number of births in each ward. Since the beginning of 1899, a special payment has been made to the three Registrars, whose districts are included in the Municipal Borough, for furnishing quarterly returns of births in each ward. This enables me to present table V.

WARD DISTRIBUTION OF DEATHS ACCORDING TO CAUSE.

Table IV. shews that the highest death-rate from Scarlet Fever was in the Lewes Road Ward. More than half of the wards had no deaths from this cause. From Diphtheria all the wards suffered with unusual severity, many cases of this disease unfortunately not having had their serious character recognised and medical aid obtained before they were beyond the reach of effectual medical aid. This was particularly so in St. Nicholas and Lewes Road Wards, which suffered most severely. The contrast between these two wards on the one hand and St. John's and Hanover Wards, in respect of this disease, is very striking. It must be ascribed to accidents connected with the spread of disease from unrecognised or neglected cases, rather than to any essential differences in the sanitary condition of these wards.

The one death from Measles during the year occurred in St. Nicholas Ward.

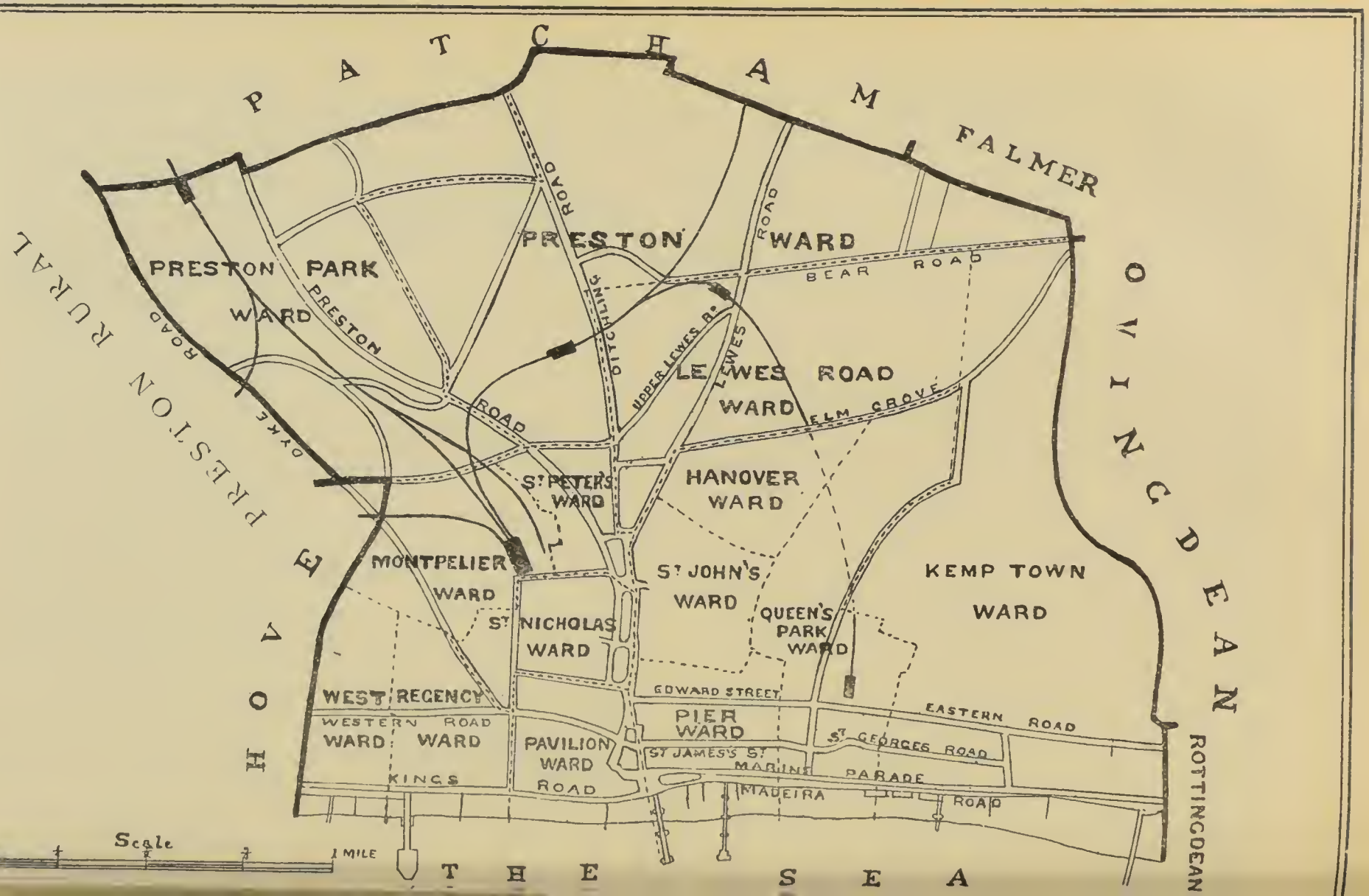
Enteric or Typhoid Fever, unlike the preceding diseases, and unlike Diarrhœa, was especially fatal in the wards having the smallest proportion of children, namely, the Pavilion and Regency Wards. It was also high in St. John's Ward. The two first wards just named are pre-eminently visitors' wards, and the excess in these fits in with the well-known habit in these wards of eating uncooked and sewage-contaminated oysters and other molluscs.

Whooping Cough was most fatal in Queen's Park Ward, five wards having no deaths from this disease. Diarrhœa will be considered in detail on page 25. Phthisis was most fatal in the Pier Ward, least fatal in the Kemp Town and Regency Wards. The death-rate from Bronchitis and Pneumonia is an index of social as well as of sanitary conditions. It was highest in Hanover and St. John's Wards, though nearly as high in the Queen's Park and Lewes Road Wards.

Table V.

	Deaths from All Causes under one year of age per 1000 Births.	Deaths from Diarrhœa per 1000 Births.
Kemp Town	114	26·4
Queen's Park	140	36·1
Pier	195	78·2
Pavilion	176	44·1
Regency	118	49·1
West	239	71·5
Montpelier	198	13·2
St. Nicholas	186	43·9
St. John's	178	69·1
Hanover	249	102·0
Lewes Road	157	61·4
St. Peter's	191	67·0
Preston Park	99	49·4
Preston	140	60·5

In the preceding table the infantile death-rate from all causes and from Diarrhœa per 1000 births is given. This appears to be more correct way of estimating the death-rate from Diarrhœa, as most of the deaths from this cause occur under one year of age. In certain of the Wards, however (given inside brackets above), the number of births and deaths in infancy is so small, that they should be excluded from comparison. Omitting these, we find the highest infantile mortality from all causes, and from Diarrhœa, in Hanover Ward; next comes Pier Ward, St. Nicholas and St. John's Wards also having a bad record in these respects. Preston Park and Kemp Town Wards have the most favourable relative position.


PATCHAM
FALMER
OVINGDEAN
ROTTINGDEAN
PRESTON RURAL
HOVE
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PRESTON WARD
LEWES ROAD WARD
HANOVER WARD
ST PETER'S WARD
MONTPELIER WARD
ST JOHN'S WARD
KEMP TOWN WARD
ST NICHOLAS WARD
QUEEN'S PARK WARD
WEST REGENCY WARD
WESTERN ROAD WARD
PAVILION WARD
PIER WARD
PRESTON ROAD
DYKE ROAD
PRESTON ROAD
CLIFTON HILL
UPPER LEWES R.
LEWES ROAD
BEAR ROAD
ELM GROVE
EDWARD STREET
EASTERN ROAD
ST GEORGES ROAD
ST JAMES'S ST
MARINE PARADE
MADEIRA ROAD
KINGS ROAD
Scale
1 MILE
THE SEA

DEATH OF VISITORS.

Of the total 2,352 deaths registered in Brighton during last year, 77 occurring in private houses, 30 in the County Hospital, and 12 in the Children's Hospital, were stated to be of visitors. The return of deaths among visitors is incomplete, many of the deaths occurring amongst visitors not being marked as such. The County Hospital in particular draws a considerable number of patients from surrounding districts, as will be seen from the following table of deaths in that institution :—

	1893.	1894.	1895.	1896.	1897.	1898.	1899.
Deaths of Inhabitants of Brighton	94	94	92	96	85	73	90
Deaths of persons from the rural districts of Sussex, &c.	19	21	24	25	31	27	21
Deaths of persons from Hove	6	12	11	11	10	7	7
Deaths of persons from London, &c.	2	2	3	4	7	8	2
Addresses not known ...	—	4	1	—	2	1	—
Total Deaths in the Sussex County Hospital	121	133	131	136	133	116	120

Thus, taking the average of seven years, 30·3 per cent. of the total deaths in the County Hospital were of non-residents.

Of the 45 patients dying in the Children's Hospital during 1899, one came from Burgess Hill, one from West Tarring, one from Fishersgate, one from Mockbridge, one from Laughton, one from Worthing, five from Hove and one from West Croydon.

The Registrar-General now excludes from the Brighton returns the deaths occurring in the Female Convalescent Home, Marine Parade, in the Sussex County Hospital, and in the Borough Sanatorium respectively, of persons who had not resided in the Borough prior to their admission into these respective institutions ; and includes on the other hand the deaths of any Preston paupers which occur in the Steyning Union Workhouse. As shewn by the above table, 43 deaths of outsiders occurred at the County Hospital. The result of the correction carried to this extent is to reduce the total 2,352 deaths by 30. No correction is made for the Children's Hospital and other institutions in the town ; and no account is taken of the much larger number of visitors who die in Brighton, but not in any public institution in it.

DEATHS IN PUBLIC INSTITUTIONS.

Of the total deaths, 230 occurred in the Workhouse, 90 in the Sussex County Hospital, 45 in the Children's Hospital, 66 in the Sanatorium, 3 in the Lying-In Hospital, 6 in the Barracks, 5 in the Shoreham Workhouse, 1 in St. Mary's Home, and 1 in the Throat and Ear Hospital.

DEATHS DISTRIBUTED ACCORDING TO AGE.

An accurate statement of the death-rate involves its statement in groups of ages for the persons living and dying at these ages. This is given for five years in the following table :—

TABLE VI.—*Death-rate per 1,000 living at each group of ages.*

Year	At all ages	Under 5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75 and upwards
1895	18·8	63·6	3·3	2·6	2·7	4·0	5·1	10·4	17·5	33·6	59·4	154·7
1896	16·1	51·2	3·7	1·3	3·3	3·9	5·3	11·8	16·3	25·2	52·0	137·0
1897	15·0	48·7	2·7	2·0	3·3	3·4	5·1	9·2	15.1	22·8	46·9	123·0
1898	16·7	62·3	2·6	2·1	3·4	3·4	5·1	10·0	17·2	24·4	48·9	120·0
1899	18.8	55·9	3·4	2·5	2·7	4·5	6·8	11·3	19·3	31·7	65.5	162·7

It will be seen that, notwithstanding the high mortality from Diarrhœa which falls chiefly upon infants, the death-rate under five years of age was lower than in 1898. This was caused in part by the satisfactorily low death-rate from Measles. The excessive mortality occurred chiefly at the higher ages, and was due to Influenza and the respiratory complaints which are intensified and made more fatal by it.

The *average age at death* was unusually high during last year; 29·5 per cent. of the total deaths occurring at ages over 65, as compared with 24·3 per cent. in 1898; and 15·6 per cent. at ages over 75, as compared with 12·7 per cent. in 1898.

It needs occasionally to be emphasised that "lowering of the death-rate" has its limitations. Lives which are saved at the earlier ages, must suffer the common lot of humanity at higher ages. It has been asserted by some that the saving of life in the younger age-groups of the preceding table, is associated with a higher death-rate (per 1,000 living) at each of the older age-groups. This is not so to any marked extent. The improved prospects of life are being steadily pushed to higher ages. While it is quite true that every life saved in youth means an additional death at higher ages, it does not imply that the *death-rate* at these ages is increased. The unfavourable influence shewn at the higher ages in Table VI. is caused by Influenza, and is only temporary in its operation.

Infantile Mortality.—The infantile mortality (under one year of age) is best stated in terms of the infantile population, that is, practically the annual number of births. Thus stated, during last year it was 124 per 1,000 births.

The infantile death-rate for each ward is given, page 9.

Mortality among Illegitimate Infants.—The total number of deaths under one year of age in 1899 was 530. Of this number 64 were illegitimate children. Stated in proportion to numbers living, the relative mortality among legitimate and illegitimate infants was as follows :—

	1893.	1894.	1895.	1896.	1897.	1898.	1899.
Deaths of legitimate infants per 1,000 legitimate births	158	135	151	129	135	169	199
Deaths of illegitimate infants per 1,000 illegitimate births	319	173	358	233	265	316	354

DEATHS AND SICKNESS ACCORDING TO SEASONS.

Table XV. shews the weekly deaths from the chief causes and the annual death-rate. In the following table the incidence of the notifiable infectious diseases is shewn according to the months of the year. The cases are classified according to the date of notification of each case.

TABLE VII.—*Number of Cases notified in 1899.*

	Diphtheria and Membranous Croup.	Scarlet Fever.	Typhoid Fever.	Erysipelas.	Puerperal Fever.	Cholera.*
Onset in Dec.	7	9	8	3	—	—
January, 1899	57	55	7	17	1	—
February ...	50	35	7	15	—	—
March ...	50	38	7	6	1	—
April	22	42	9	12	—	—
May	31	41	14	8	1	—
June	45	65	18	8	3	—
July	49	89	24	8	—	—
August ...	46	63	19	10	1	1
September ...	59	97	24	5	—	—
October ...	83	99	23	7	6	—
November ...	102	119	13	9	1	—
December ...	66	62	9	5	—	—
	667	814	182	113	14	1

* This was an unusually severe case of Summer Diarrhœa, which was notified as Cholera.

CHIEF CAUSES OF DEATH.

The chief causes of death, and the number of deaths from each disease or group of diseases, are tabulated in Table VIII. This table gives the relative incidence of different diseases, and the incidence of each disease in the two sexes and at different ages.

Table VIII.

Causes of Death in Brighton during the Year 1899.		Total Deaths.	Sex.		Ages.	
			Male.	Female.	0—1	1—5
Small Pox		—	—	—	—	—
Measles		1	1	—	—	1
Whooping Cough		19	6	13	8	10
Enteric Fever		25	15	10	—	2
Malarial Fever		1	1	—	—	—
Diarrhœa		191	105	86	151	28
Diphtheria		62	25	37	1	42
Scarlet Fever		10	8	2	1	7
Puerperal Fever		8	—	8	—	—
Erysipelas		9	2	7	5	—
Other Zymotic Diseases		5	4	1	1	1
Influenza		96	40	56	4	1
Syphilis		19	9	10	18	—
Tetanus		2	2	—	1	—
Ulcerative Endocarditis		2	2	—	—	—
Phthisis	Tubercular	180	98	82	—	5
Tabes Mesenteriea	Tubercular	5	2	3	2	2
Brain Tubercle	Tubercular	18	10	8	8	6
Other Tubercular Diseases	Tubercular	12	6	6	3	1
Cancer Malignant Disease		135	50	85	1	2
Gout and Rheumatism		17	10	7	—	2
Other Constitutional Diseases		21	10	11	1	1
Parasitic Diseases		1	1	—	—	—
Dietie		34	23	11	4	—
Nervous Diseases, exeluding Convulsions		176	90	86	4	4
Convulsions		33	11	22	30	3
Diseases of Organs of Speeial Sense		2	2	—	1	1
Cireulatory		175	80	95	—	—
Respiratory		389	189	200	10	37
Digestive		142	68	74	32	13
Generative		10	1	9	—	—
Urinary		64	37	27	—	—
Loeomotory		8	2	6	1	—
Integumentary		9	2	7	—	—
Diseases of Glandlike Organs of Uneertain Use		2	—	2	—	—
Premature birth and low vitality		87	58	29	87	—
Congenital defeets and mal-formations		7	6	1	6	1
Old age		193	70	123	—	—
Violenee		67	48	19	15	4
Ill-defined		85	46	39	75	5
Totals		2322	1140	1182	330	179

TABLE VIII. *(contd.)*

AGES AT DEATH.									
5—10	10 - 15	15—20	20—25	25—35	35—45	45—55	55—65	65—75	75 and upwards
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—
—	2	6	3	6	3	3	—	—	—
—	—	—	—	—	—	—	—	1	—
1	—	—	—	—	—	2	3	3	3
14	3	—	—	1	—	1	—	—	—
1	—	—	—	—	—	—	1	—	—
—	—	—	—	6	2	—	—	—	—
—	—	—	—	1	—	—	—	1	2
1	1	—	—	—	1	—	—	—	—
—	3	1	1	4	7	11	17	21	26
—	—	—	—	—	1	—	—	—	—
1	—	—	—	—	—	—	—	—	—
—	—	—	—	1	—	1	—	—	—
2	3	12	19	42	43	30	18	5	1
—	1	—	—	—	—	—	—	—	—
—	3	—	—	—	1	—	—	—	—
2	2	—	—	—	2	1	—	1	—
1	1	—	—	3	12	31	32	30	22
1	2	—	3	3	—	1	2	1	2
—	—	—	1	2	4	2	4	6	—
—	—	—	—	1	—	—	—	—	—
—	—	—	—	3	12	7	7	1	—
3	3	2	2	9	12	25	34	47	31
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
2	1	7	5	8	19	26	40	43	24
4	2	1	8	15	16	36	46	77	77
7	2	—	4	19	13	11	19	17	5
—	—	—	1	2	4	1	—	1	1
—	1	1	2	3	8	11	12	15	11
—	—	—	1	—	1	2	2	—	1
—	—	—	1	—	—	—	—	4	4
—	—	—	—	—	—	1	—	1	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	1	2	43	147
3	1	3	1	5	10	9	7	5	4
—	—	—	—	—	1	4	—	—	—
44	31	33	52	134	172	217	246	323	361

ZYMOTIC DISEASES.

The seven chief infectious diseases caused 308 deaths, as compared with 198 in the previous year, which is equivalent to an annual death-rate of 2·49 per 1,000 of population.

The relative proportion borne by each zymotic disease is shewn in Table IX.

TABLE IX.

Year.	Population.	Annual Death-Rate per 100,000 of population from										
		All Causes.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever (chiefly Enteric).	Diarrhœa.	The Seven Chief Zymotic Diseases.	Phthisis.	Other Tubercular Diseases.
1869	87,659	2060	—	2	79	12	45	39	147	325	—	—
1870	88,878	2390	45	44	150	32	83	40	111	505	—	—
1871	90,345	2260	71	23	91	9	9	38	155	396	—	—
1872	91,684	2090	4	45	83	10	26	27	143	338	—	—
1873	93,041	1870	—	7	6	4	45	33	91	188	—	—
1874	95,297	2130	1	65	4	20	55	34	78	256	—	—
*1875	97,005	2250	—	2	21	8	89	26	104	249	—	—
1876	98,746	2000	1	57	68	9	13	14	76	238	—	—
1877	100,510	1910	10	2	27	5	52	18	80	194	233	—
1878	102,320	2160	—	22	8	4	80	16	107	236	225	—
1879	104,150	1930	—	25	13	3	52	10	42	146	214	—
1880	106,200	2000	—	22	77	3	41	21	127	290	192	—
1881	107,934	1910	8	21	68	6	30	42	48	263	183	—
1882	108,680	2180	4	143	83	7	115	25	61	438	209	—
1883	109,423	1960	—	51	11	6	57	25	96	246	192	—
1884	110,180	1870	1	7	27	14	33	14	80	178	195	—
1885	110,938	1760	1	31	6	16	41	16	32	142	191	—
1886	111,704	1780	—	10	12	19	60	12	84	197	195	—
1887	112,473	1770	—	64	9	27	28	12	95	233	178	—
1888	113,248	1700	—	3	8	21	43	13	54	142	153	65
1889	114,029	1610	—	40	10	9	24	16	56	160	178	67
1890	114,814	1910	—	53	10	12	89	11	82	257	192	86
1891	115,606	1820	—	24	1	10	18	11	41	105	143	81
1892	116,424	1890	—	99	7	19	19	7	58	209	141	79
1893	117,833	1840	—	11	9	30	47	13	74	183	168	88
1894	118,715	1640	—	30	3	22	12	9	44	120	152	87
1895	119,606	1880	—	21	4	15	34	12	86	172	167	74
1896	120,499	1610	—	45	5	16	26	11	61	165	150	66
1897	121,401	1501	—	14	10	10	21	17	91	163	142	47
1898	122,310	1674	—	7	6	18	18	15	105	233	136	65
1899	123,227	1889	—	1	8	50	15	20	155	249	146	28

* Preston added to the Borough in 1874.

THE NOTIFICATION OF INFECTIOUS DISEASES.

For a knowledge of the more important Infectious Diseases we are, since March 1st, 1891, no longer dependent solely on the uncertain and late information obtainable from the death-returns and from casual sources.

The more accurate and prompt returns furnished to me under the Infectious Diseases (Notification) Act show that the number of *cases* of Infectious Diseases notified during 1899 was:—Diphtheria, 667; Scarlet Fever, 814; Enteric Fever, 182; Erysipelas, 113; Puerperal Fever, 14; Cholera, 1.

The above is the number of supposed *cases* of infectious disease. Further observation in a certain proportion of these led to a revision of the diagnosis.

Nine cases of Diphtheria, 6 of Enteric Fever, 5 of Erysipelas, 3 of Scarlet Fever, and one of Puerperal Fever, were notified severally by two doctors, chiefly in connection with their removal to hospitals.

The total number of notifications (including 19 by myself) was 1815, as compared with 700 in 1898. Of these, 332 occurred in public medical practice—the amount payable for the certificates being £16 12s.; while 1,464 occurred in private medical practice—the amount payable being £183. The total amount paid for notification certificates was £199 12s.

The cost of administering the Infectious Diseases (Notification) Act in each complete year since its adoption in Brighton is as follows:—

Year.	Cost of Notification Fees Paid to Medical Practitioners per 1,000 of Population.	
	s.	d.
1892	11	3
1893	17	3
1894	10	0
1895	10	1
1896	11	9
1897	12	0
1898	18	0
1899	32	5

TABLE X.

		Number of infectious cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
Diphtheria and Croup ...	1892	94	19	20·2
	1893	157	30	18·4
	1894	104	22	21·1
	1895	171	15	8·8
	1896	141	16	10·9
	1897	154	10	6·5
	1898	311	18	5·8
	1899	541	50	9·2
Scarlet Fever	1892	321	7	2·1
	1893	406	9	2·2
	1894	185	3	1·6
	1895	163	4	2·5
	1896	206	5	2·3
	1897	269	10	3·7
	1898	302	6	2·0
	1899	662	8	1·2
Enteric and Continued Fever	1892	54	7	12·7
	1893	65	13	19·5
	1894	69	9	13·0
	1895	72	12	16·6
	1896	101	11	11·2
	1897	94	17	18·1
	1898	105	15	14·3
	1899	148	20	13·7
Erysipelas	1892	81	6	7·4
	1893	145	12	8·3
	1894	82	5	6·0
	1895	57	3	5·3
	1896	61	4	6·9
	1897	51	6	11·7
	1898	81	4	4·9
	1899	92	7	7·6
Puerperal Fever... ...	1892	4	5	125*
	1893	10	5	50
	1894	4	—	—
	1895	6	3	50
	1896	9	4	46
	1897	13	4	33
	1898	8	1	12
	1899	11	6·5	59

* Notification of cases evidently incomplete.

SMALL POX.

Brighton has happily maintained its immunity during 1899 from cases of Small Pox. The continuance of freedom from a serious outbreak of this disease depends upon three factors: (a) the amount of Small Pox in other parts of the country, particularly London; (b) the prompt recognition of any accidentally imported case and its early isolation. I have repeatedly intimated to the medical practitioners my readiness and anxiety to see every suspicious case, and it

is I believe largely owing to the promptitude on their part to recognize the possibility of small pox that we owe our favourable record during the past 14 years. (c) The state of vaccination of the community.

It will be within the recollection of the Town Council that we are prohibited by the regulations of the Local Government Board from treating Small Pox on the present Sanatorium site. We have not yet secured a permanent site for the Small Pox Hospital. In view of the possibility of an emergency, in December I advised the Committee to purchase three Berthon huts at £50 each, which could be erected in a few hours on any site. This has been done early in 1900.

ENTERIC OR TYPHOID FEVER.

The following tabular statement gives the history of cases of Enteric Fever in the Borough, with special reference to the eating of shell-fish.

TABLE XI.

COUNTY BOROUGH OF BRIGHTON.

YEAR.	No. of cases subsequently found not to be Enteric Fever, or of which the nature was doubtful.	No. of cases of Enteric Fever, the infection of which was imported from other districts.	No. of cases apparently originating in the town in which :				Infection probably acquired in connection with the storing of shell fish.	Total cases of local origin.
			(*a*) it was stated that no oysters or other shell fish had been eaten.	(*b*) it was doubtful as to whether shell fish had been eaten.	(*c*) origin was directly ascribable to oysters.	(*d*) origin was directly ascribable to other shell fish.		
1893 (from Mid-summer) ...	1	16	19	6	6*	—	—	31
1894	15	15	33	1	16	5	—	55
1895	12	19	37	—	7†	12	—	56
1896	7+3	18	61	2	22‡	8	1	94
1897	7+3	15	47	11	11†	16	3	88
1898	16	15	54	3	28§	13	—	98
1899	15	30	56	20	44‡	8	—	137

* No secondary cases. † Including one secondary case.
‡ Including two secondary cases.
§ Including five secondary cases.
‡ Including seven secondary cases.

As the following report summarises the history of last year as regards Enteric Fever, it is introduced here.

Town Hall, Brighton.

January 11th. 1900.

To the Sanitary Committee.

GENTLEMEN,—During the past year, 137 cases out of a total of 182 cases of Typhoid Fever notified in Brighton, were of local origin. Of these 137, 52 or 37·2 per cent. were, in my opinion, caused by sewage-contaminated oysters or mussels, 44 cases being caused by oysters and 8 by mussels.

The circumstances of the past year have been peculiarly favourable to the occurrence of an excessive number of cases of Typhoid Fever, the weather being both dry and hot, and commencing to be so early in the year, and continuing so more or less through its whole course. The number of cases of local origin in each month was as follows :—

1899.

	Total number of cases of Typhoid Fever of local origin notified.	*Total number of cases of Typhoid Fever caused by oysters or mussels.*
January	12	8
February	5	3
March	4	0
April	6	4
May	13	8
June	16	6
July	21	10
August	12	1
September	15	1
October	17	3
November	11	5
December	5	3
	137	52

It will be noticed that the number of cases ascribable to oysters and mussels, shewed a remarkable decrease from August onward during the autumn months, when one naturally expects Typhoid Fever, especially Typhoid Fever due to this cause, to be in great excess.

This is shewn more clearly by the following table, in which the number of cases in the first seven months of the year and in the last five months, are stated as an annual rate per 100,000 of the total population, 1898 being contrasted with 1899.

Annual case-rate per 100,000 *persons living in Brighton from Typhoid Fever originating in the town.*

	Oyster and Mussel Cases.		*Local cases due to other causes.*	
	1898.	1899.	1898.	1899.
First Seven Months	35·0	54·3	22·4	52·8
Last Five Months	31·4	25·3	54·6	65·4

It will be noted that while during 1898 the oyster case-rate in the last five months was only slightly less than that of the first seven months; in 1899 it was less than half of that during the first seven months of the year. Among the cases of local origin due to other causes than oysters and mussels, the incidence of Typhoid Fever was higher in both portions of the year than in the corresponding portions of 1898. The chief explanation of this remarkable change is, in my opinion, to be found in the posters issued by your order, which were first posted in the week following August 16th, and which, I believe, lead to a very great diminution in the consumption of oysters and mussels derived from layings contaminated with sewage.*

Although this result is satisfactory so far as it goes, it still remains true that 52 cases of Typhoid Fever during the last year (13 since the issue of the posters) were caused by contaminated oysters and mussels. Furthermore, there is every probability that the effect of the poster will wear off in the public mind. It is necessary, therefore, in my opinion, that further steps should be taken to protect the public against the consumption of oysters and mussels contaminated by sewage.

It will be remembered that in consequence of the efforts made by the Brighton Town Council, a deputation representing many of the great towns waited upon the President of the Local Government Board on March 30th of last year. The deputation was favourably received by the President, who promised legislation on the subject. In accordance with this promise, a Bill was introduced and subsequently referred to a Committee of the House of Lords, before whom the Town Clerk and myself gave evidence. This Committee, unfortunately, decided not to place responsibility for the administration of the proposed Act in the hands of the County Councils, a decision which led to the President of the Local Government Board withdrawing his Bill. Matters now stand at that stage, and it is very desirable that pressure should be brought to bear upon the Government to urge them to re-introduce that Bill.

With this object in view, I recommend that a petition be addressed to the Local Government Board, and that the London County Council and the Corporation of the City of London and the great towns, should be approached and asked to support this petition. It is desirable that the words "mussels and other shell-fish" be added to the Bill, as the evils connected with shell-fish are by no means confined to oysters.

Yours obediently,

ARTHUR NEWSHOLME,

Medical Officer of Health.

On the 19th February, in answer to a question by Mr. Loder, M.P., the President of the Local Government Board gave the following unsatisfactory answer:—"Since the publication of Dr. Bulstrode's report, and since legislation was proposed on the subject, there is no doubt that a great deal has been done to remove the evils complained of, and it is alleged that further improvement is still in progress. . . . The places complained of are comparatively few, and I am awaiting the Inspector's report before deciding whether reintroduction of the Bill is necessary and desirable or not."

*See page 69 for text of this poster.

Table XII.

Ages		Under 5.	5—	10—	15—	20—	25—	35—	45—	55—	65 and upwards	All Ages.
Estimated Population, 1899 ...		12,690	12,816	12,446	12,446	11,708	19,593	15,280	11,336	7,763	7,147	123,225
No. of Cases Notified.	Enteric Fever ...	8	14	22	29	31	44	21	11	2	—	182
	Scarlet Fever ...	210	328	169	42	29	28	7	—	1	—	814
	Diphtheria ..	169	243	95	55	28	45	21	9	1	1	667
No. of Cases per 1000 of Estimated Population.	Enteric Fever ...	·6	1·1	1·8	2·3	2·7	2·2	1·4	1·0	·3	—	1·5
	Scarlet Fever ...	16·6	25·7	13·7	3·4	2·5	1·4	·5	—	·1	—	6·6
	Diphtheria ...	13·3	19·1	7·7	4·5	2·4	2·3	1·4	·8	·1	·1	5·4
Deaths per 100 Persons attacked.	Enteric Fever ...	(25)	*nil*	9·1	20·7	9·8	13·6	14·3	27·3	*nil*	—	13.7
	Scarlet Fever ...	3.8	0·3	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*	(50)	—	1·2
	Diphtheria ...	25·4	5·7	3.2	*nil*	*nil*	(2·2)	*nil*	(11·1)	*nil*	*nil*	9·2

(The rates based on too small a number of cases to be trustworthy, are enclosed in brackets.)

In the preceding table the age-incidence of cases of the three chief infectious diseases is given. There is a marked difference between the three. The greatest number of cases in proportion to the number living, occurs at the ages 15 to 35 for Typhoid Fever, while both in Scarlet Fever and Diphtheria, more of the stricken are aged 5-10 than any other age. It is not simply that the majority of children suffer from Scarlet Fever and Diphtheria when under 10 years of age and are then rendered immune for the rest of their lives. Even among children who have not suffered from these diseases at earlier ages, the liability to attack steadily diminishes with each advancing year of life. When to this is added the significance of the facts in Table XII. as to fatality (per 100 persons attacked) at different ages, the importance of protecting children, especially those under 10, from attacks of Diphtheria and Scarlet Fever becomes obvious. Of children under five years of age, one out of every four attacked with Diphtheria died, while at ages 5-10 only one out of every 17; at ages 10-15 only one out of every 31; and after this age very few attacks were fatal.

Scarlet Fever has become of late years a much milder complaint. How much of this is due to the greatly increased use of isolation hospitals, and how much to an amelioration in the natural type of disease may be matter of dispute; but it still remains true that its chief fatality is at the ages under five, when one out of 28 attacked die, while at ages 5-10 only one out of 333 attacked; and at subsequent ages practically no deaths. All these facts point to the importance of protecting children under five from exposure to infection. Chief among such means of infection is the attendance of children in the infants' class at school long before the age at which compulsory school attendance begins. If any great educational advantage were associated with the attendance at school of children, from three to five years of age, a case might possibly be made out for the continuance of what now means a heavy annual death-toll.

I am prepared to admit that the advantages of elementary education are so great as to render the sacrifice of life or of health for a minority, a public necessity. The only point is to ensure by proper precautions that this sacrifice shall be the least possible. But in the case of infants under five years of age, it does not appear to me that there is any educational advantage at all commensurate with the present loss of life caused by such attendance in infant schools.

SCARLET FEVER.

A reference to Table IX. will show that the death-rate from this disease was only 8 per 100,000 of the population, which was much lower than it has usually been since 1869, the first year given in the table. In 1870, for instance, the death-rate was 150, and in 1882 it was 83 per 100,000 of population. It might reasonably be concluded from the above figures that last year was marked by only slight prevalence of this disease. Unfortunately this was not so. The number of cases notified was greater than in any preceding year since 1892, when the Notification Act was adopted (see Table X.). The fact is that the type of this

disease has become so attenuated that in a considerable number of cases no doctor is called in, or he is called in for what looks like an ordinary sore throat, no rash being noticed, and consequently infection is undetected and spreads with great facility. This has been our main difficulty in combating this disease during the past year. Over and over again unrecognized cases, some attending school, have caused outbreaks of disease, thus entailing great expense upon the town (see page 67). Although this, from the standpoint of preventive medicine, creates new difficulties, the low case-mortality from this disease is on the whole a subject for congratulation. Table XII. shews that at all ages it only kills 1·2 per cent. of those attacked by it. For further remarks on this subject see page 23.

The exact extent to which the Sanatorium is used for scarlet fever patients can now be gauged for several years, as well as the relative fatality among home treated and hospital-treated patients.

TABLE XIII.

Year.	Admissions to Sanatorium per cent. of total cases notified.	Case-Mortality, per 100 cases.	
		Among Patients treated at Home.	Among Patients treated in the Sanatorium.
1891 (from Mar. 1st.	70·0	—	—
1892	77·7	6·0	2·5
1893	70·6	2·5	1·6
1894	82·2	2·6	1·3
1895	77·4	2·3	2·6
1896	82·6	2·3	2·0*
1897	81.6	3.3	3·7
1898	82·7	3·1	1·6
1899	85·5	3·7	0·9

* Including one death after the patient returned home.

DIPHTHERIA.

Similar remarks to those made respecting overlooked cases of Scarlet Fever apply with even greater force to Diphtheria. A large number of cases have escaped detection during the past year, and have been the means of spreading infection by school attendance and otherwise. It is very difficult to impress parents with the idea that what merely looks like a "severe cold" or an "ordinary sore throat" may be a milder but equally communicable form of that dire disease, Diphtheria. Even among medical men it is often considered to be an argument against the diagnosis of Diphtheria that "everything had disappeared from the throat in a couple of days, and the patient shewed no sign of constitutional disturbance." Bacteriological examination proves that many of these mild sore throats are really Diphtheria. During the past year 430 swabs from suspected cases have been examined on behalf of doctors or from throats of patients where no doctor was in attendance, but I had reason to suspect the presence of infection. The general conclusion from the past year's experience

is that *every sore throat in children must be regarded as infectious and the patient separated* from other children, if we are to be successful in keeping Diphtheria under control in years like 1899, in which the wider causes of an epidemic are at work.

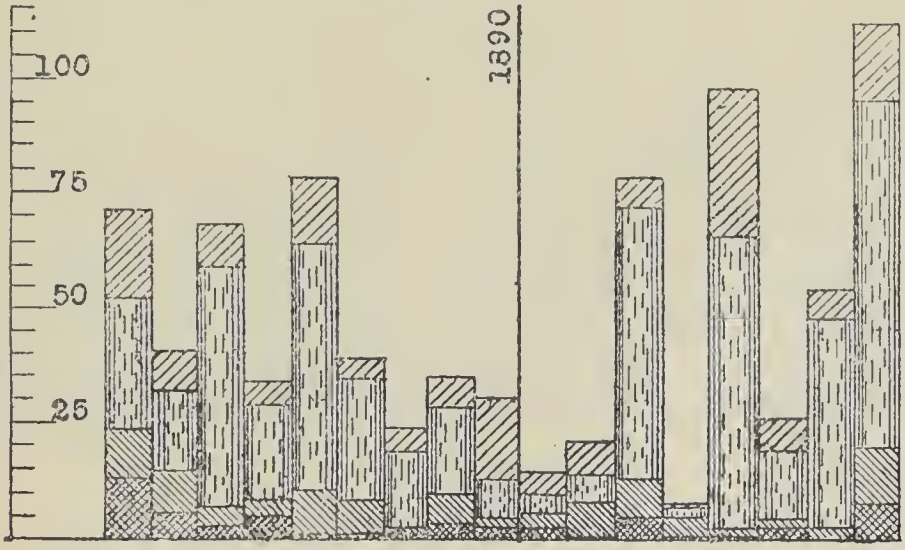
I have elsewhere dwelt in detail *(A Treatise on Epidemic Diphtheria from an International Standpoint)* upon the wider causes which govern the epidemic prevalence of Diphtheria. It is not a question of defective house drainage, but of personal infection from one to another. Why, however, is personal infection more operative in certain years than in others? Great epidemics of Diphtheria in the past in this country and in European countries and America have always coincided with periods (lasting over several years) of protracted deficiency of rainfall; and the present experience in this country and in Brighton is no exception to the rule. For further remarks shewing the protracted character of the present drought see page 29.

In accordance with the preceding remarks, it is much more difficult in certain years to control the spread of Diphtheria than in others. This is a reason not for diminishing, but for redoubling our efforts; and if everyone, particularly parents, would co-operate with us, a much more rapid diminution of this disease might be secured.

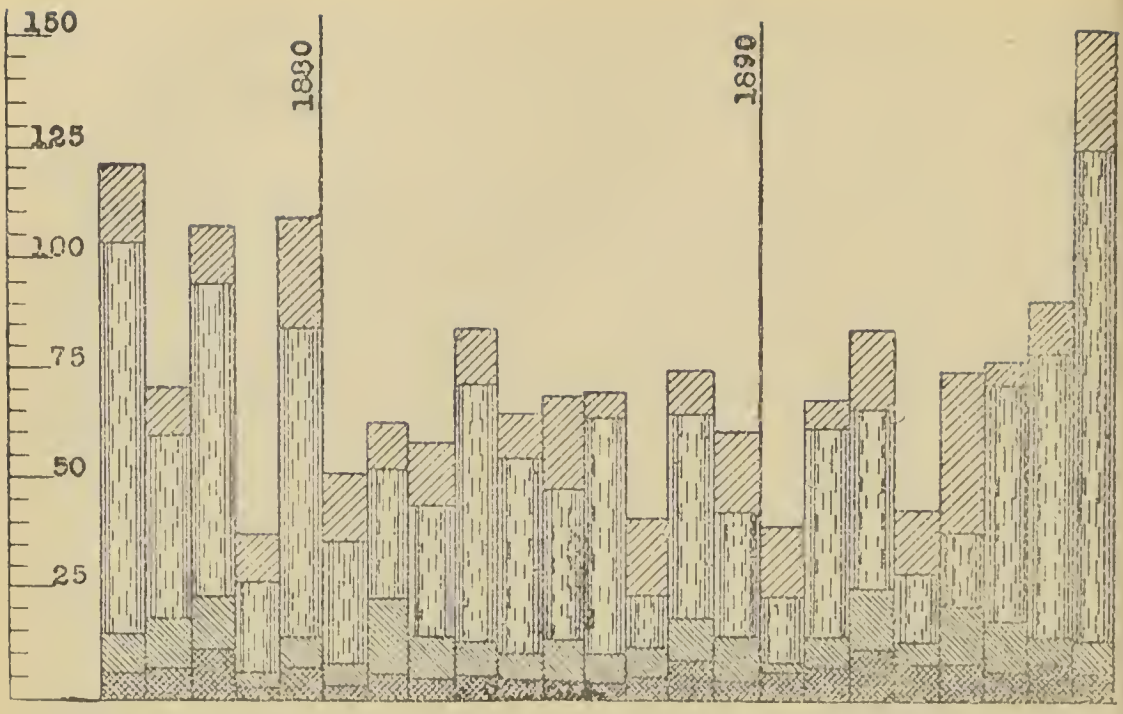
DIARRHŒA.

The mortality from Diarrhœa was exceptionally high last year. One of the main causes of this was the unusually protracted and hot summer (see page 29). The other causes were dealt with in full in my report for the 3rd quarter of 1899, and it is not necessary to repeat what I then said.

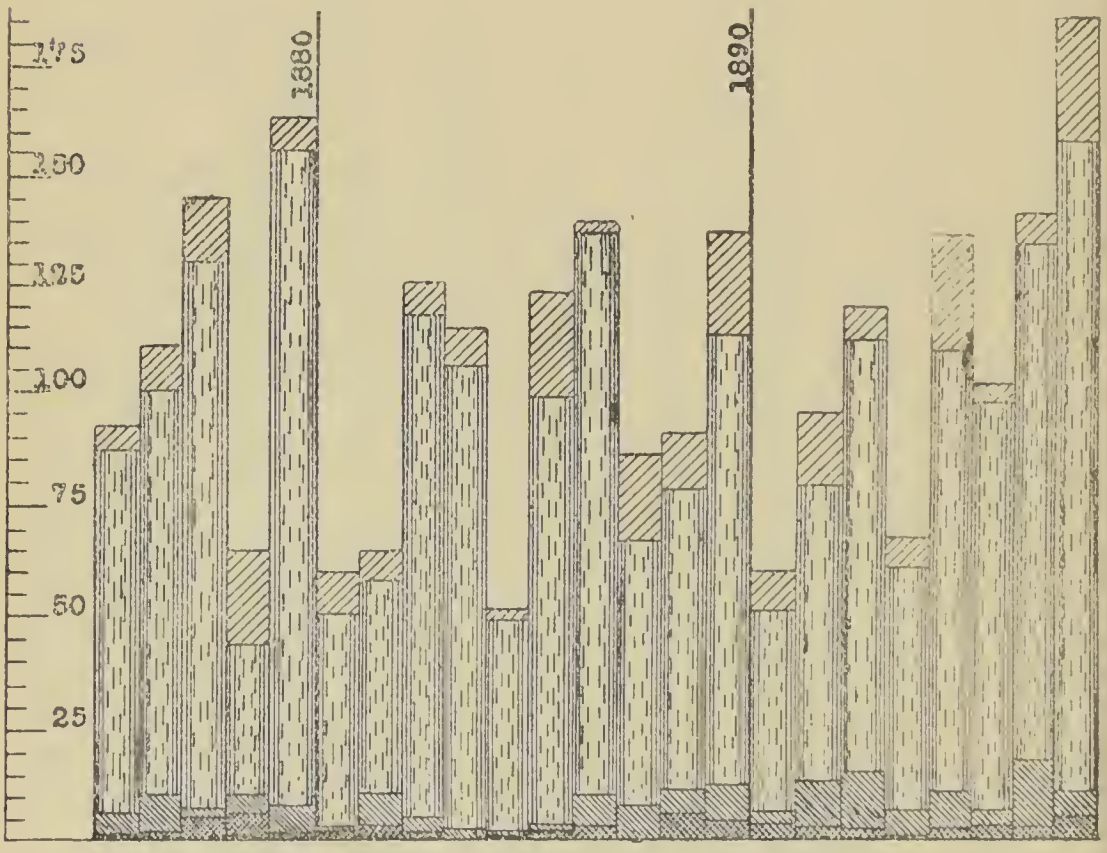
I reproduce from that report the following diagrams illustrating the relative prevalence of the disease in different great towns, varying from Halifax, in which there is least of it, Bristol, in which there is also little of it, Brighton in which the amount is rather greater, to Leicester and Preston, which occupy a supremely bad position in regard to this disease. In each diagram the deaths are stated per 1000 births, as Diarrhœa is chiefly an infantile complaint; and the death-rate for each quarter of the year is separately shewn.



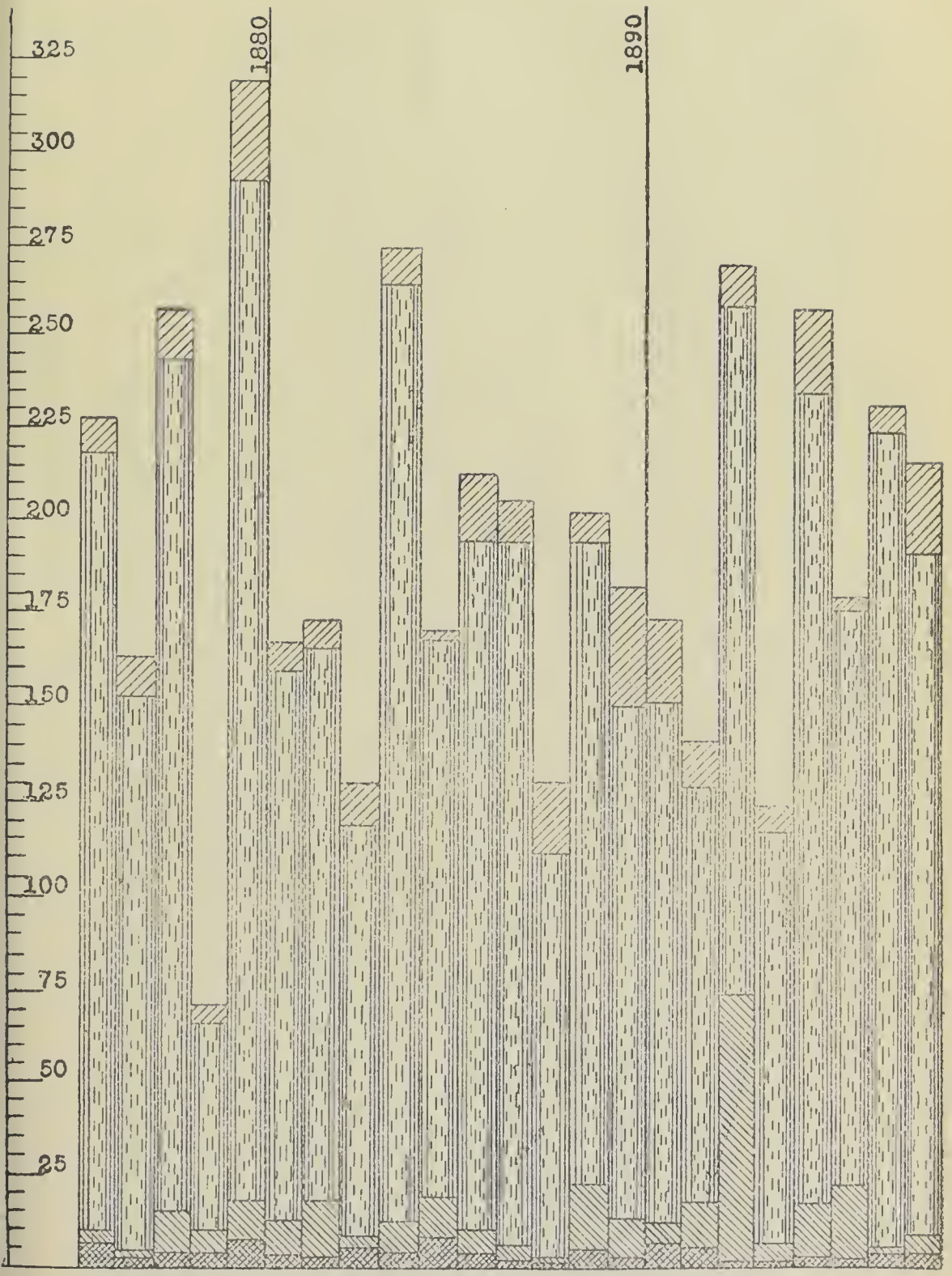
HALIFAX.



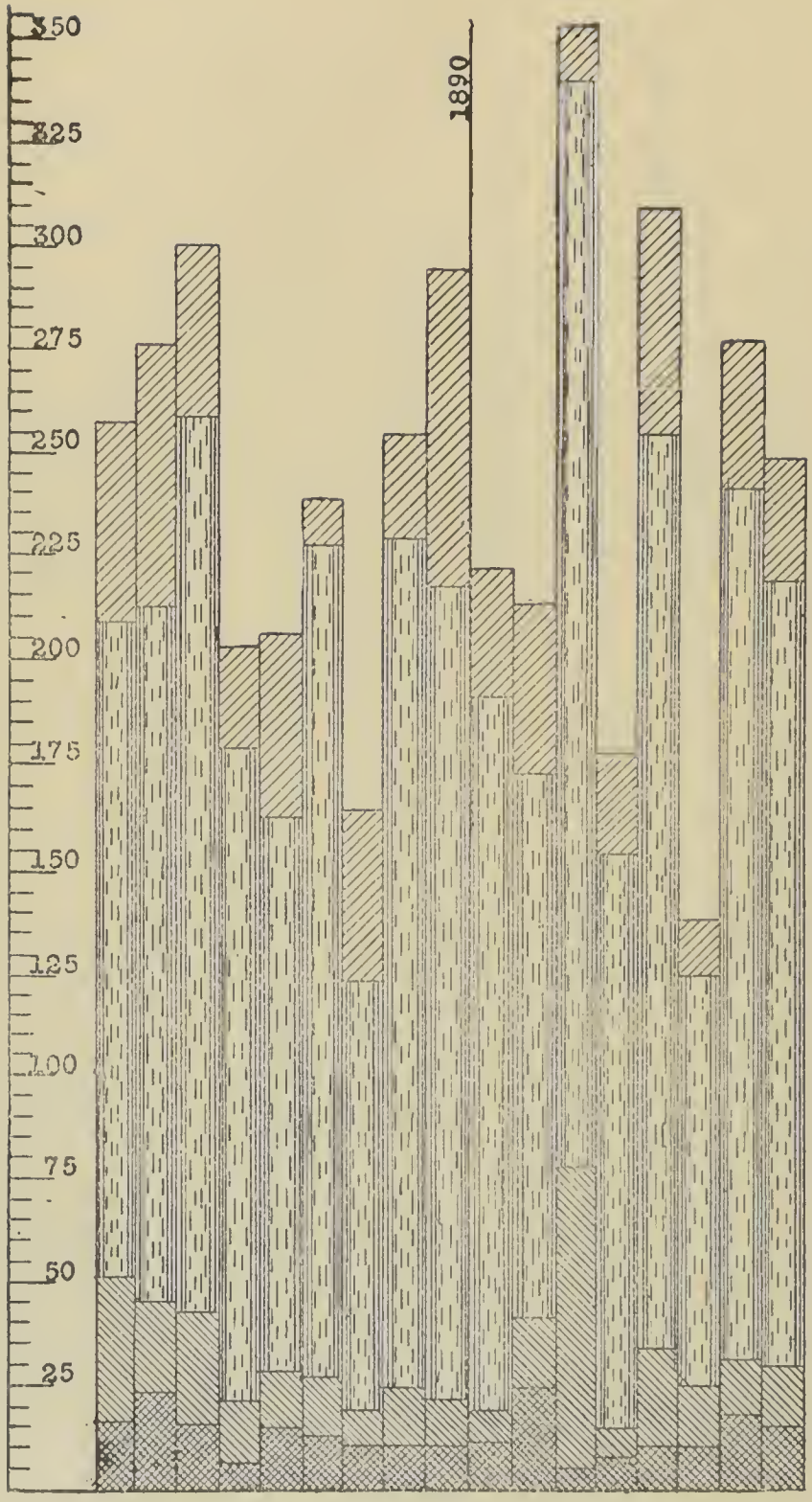
BRISTOL.



BRIGHTON.



LEICESTER.



PRESTON.

METEOROLOGY OF THE YEAR.

The most important meteorological features of each week of 1899 are given in Table XV. The following table summarises the experience of each month.

TABLE XIV.

	Mean Maximum Temperature.	Deviation from Average of 1877-98.	Mean Minimum Temperature.	Deviation from Average of 1877-98.	Maximum Earth Temperature.	Deviation from Average of 1893-98.	Rainfall.	
							Total.	Deviation from Average of 1877-98.
January	48·6	+4·7	40·3	+5·5	48·0	+1·0	2·67	−0·01
February	48·9	+3·6	38·5	+1·6	46·2	−0·6	2·80	+0·82
March	49·9	+1·8	35·1	−1·7	46·0	−2·0	0·61	−1·28
April	53·4	+0·9	42·9	+1·8	50·0	−2·0	2·44	+0·65
May	59·2	−0·9	45·5	−0·6	54·0	−1·8	1·09	−0·64
June	68·5	+2·6	52·8	+0·2	60·2	+0·4	1·04	−0·80
July	72·8	+4·9	58·1	+2·7	65·0	+3·2	0·61	−1·81
August	77·1	+9·2	59·4	+3·6	65·8	+2·4	0·63	−1·85
September	67·7	+2·5	52·6	+1·3	65·4	+2·8	3·25	+0·63
October	61·1	+3·8	45·9	+0·1	—	—	1·77	−2·86
November	55·0	+4·4	45·4	+3·9	55·2	−1·6	4·25	+0·93
December	44·1	−2·8	34·3	−2·4	50·2	−0·1	2·31	−0·34

The salient features are the excessively high temperature in the five months July—November inclusive. This, as will be seen, was associated with deficient rainfall. The conditions as to temperature and rainfall were those which are usually associated with a high diarrhœal mortality, and in accordance with this, we suffered very severely from this cause of death. The following further remarks illustrate the accumulated deficiency of rainfall from which we have suffered during recent years.

Official observations have been taken by the Medical Officer of Health from 1877 onwards. The average annual rainfall for the 23 years 1877-99 was 29·19 inches. Since 1887, with the exception of two years, there has been, as shewn in the following table, a continuous deficiency below this average. In the 11 preceding years, the rainfall in three years only was deficient from the average (viz., 0·27 in. in 1883, 2·83 in 1884, and 0·29 in. in 1888).

Deviation from Average Rainfall (29·19 *in.*) *of* 23 *years* 1877-99.

Year.	*Deficiency.*	*Excess.*	*Accumulated Deficiency.*
1887	7·07	—	7·07
1888	1·03	—	8·10
1889	1·74	—	9·84
1890	5·58	—	15·42
1891	—	5·19	10·23
1892	2·72	—	12·95
1893	5·06	—	18·01
1894	—	2·76	15·25
1895	4·00	—	19·25
1896	1·35	—	20·60
1897	0·07	—	20·67
1898	8·78	—	29·45
1899	5·72	—	35·17

Table XV.

1899. Week ending	Death-rate per 1,000 per annum.	Number of Deaths during the week from										Temperature of air during week.			Temperature of soil during week at a depth of four feet.		Wind. No. of days of								Rainfall.		No. of hours of bright sunshine.
		Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Influenza.	Bronchitis.	Pneumonia, including Broncho-Pneumonia.	Phthisis.	Highest.	Lowest.	Mean.	Highest.	Lowest.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	No. of days on which rain fell.	Amount collected in inches.	
Jan. 7...	16·1	—	—	2	2	—	1	1	4	3	2	51·4	36·4	43·9	48·0	47·0	1	—	—	1	1	—	3	—	1	4	0·52	13·58
,, 14...	11·0	—	1	2	—	—	—	1	8	—	1	52·6	39·0	47·6	47·0	47·0	—	—	—	—	3	2	—	—	2	5	0·67	15·75
,, 21...	17·8	—	1	—	—	1	2	—	3	3	4	53·4	34·0	47·6	47·2	47·0	—	—	—	—	2	4	1	—	—	6	1·36	1·75
,, 28...	17·3	—	—	—	2	—	—	—	2	4	6	53·2	31·0	40·9	47·4	46·8	2	3	—	—	—	1	1	—	—	2	0·07	39·17
Feb. 4...	13·1	—	1	—	—	—	—	1	4	2	1	46·0	27·6	36·8	46·2	45·0	3	1	—	—	1	—	—	1	1	2	0·57	18·41
,, 11...	14·0	—	—	1	1	—	—	1	3	1	3	54·2	38·0	47·3	44·8	44·0	—	—	1	—	5	—	—	—	1	6	1·63	6·00
,, 18...	16·5	—	—	2	—	—	—	1	4	—	5	53·2	40·0	46·9	46·0	45·0	—	—	1	1	2	2	1	—	—	5	0·65	22·66
,, 25...	18·2	—	—	1	2	—	—	—	7	3	4	53·0	34·2	44·2	46·2	46·0	—	4	2	—	—	—	—	—	1	—	—	43·92
Mar. 4...	16·9	—	—	1	1	—	—	2	6	1	2	53·4	26·4	40·1	46·0	45·0	2	1	—	—	—	—	1	1	2	—	—	55·91
,, 11...	20·7	—	—	2	—	1	—	2	6	6	3	53·6	30·0	42·7	44·8	44·4	—	1	—	—	2	3	—	—	1	1	0·18	49·17
,, 18...	18·2	—	—	1	1	—	—	2	3	2	5	61·2	32·6	46·4	45·8	45·0	3	2	1	—	—	—	1	—	—	—	—	39·83
,, 25...	21·2	—	—	2	—	2	1	2	8	1	6	49·2	23·2	32·6	46·0	45·0	4	—	—	—	—	1	—	2	—	3	0·30	43·49
April 1...	21·2	—	—	—	1	—	1	6	8	4	2	53·8	39·6	48·5	45·6	44·2	—	—	—	—	1	4	1	—	1	4	0·15	15·00
,, 8...	27·5	—	1	2	1	—	—	13	11	6	—	55·8	43·4	49·7	47·8	46·0	—	—	—	—	—	2	4	1	—	5	0·37	24·75
,, 15...	27·1	—	1	—	1	—	—	7	7	3	4	54·2	35·0	46·4	48·0	47·8	1	—	—	—	1	—	2	2	1	6	0·67	29·17
,, 22...	22·0	—	—	—	2	—	1	4	5	4	1	56·4	34·2	45·0	49·0	48·0	—	2	1	—	2	—	—	1	1	4	0·56	48·92
,, 29...	15·7	—	—	—	—	—	1	2	4	2	1	58·0	41·2	50·9	49·6	49·0	—	1	—	1	—	2	1	1	1	4	0·82	26·25
May 6...	17·3	—	—	—	1	—	—	5	1	4	3	59·4	37·0	49·7	51·0	50·0	1	4	—	—	1	—	1	—	—	—	—	59·16
,, 13...	15·7	—	—	—	—	—	—	6	1	1	4	66·0	41·4	52·3	51·8	51·0	1	2	—	—	1	1	—	—	2	—	—	62·74
,, 20...	16·1	—	1	2	—	1	—	1	1	4	3	61·6	48·0	54·8	53·2	52·0	—	—	—	—	1	3	3	—	—	5	0·93	33.25
,, 27...	13·5	—	—	1	—	—	—	2	1	3	3	61·2	37·0	52·7	54·8	53·6	1	1	—	—	—	3	2	—	—	2	0·16	35·50
June 3...	8·5	—	—	—	—	1	—	—	2	2	4	71·6	58·4	56·3	55·0	54·0	—	2	1	2	—	—	—	—	2	—	—	91·01
,, 10...	14·8	—	—	1	—	—	1	1	3	1	1	77·8	49·0	61·7	57·8	55·2	—	2	2	1	—	1	—	—	1	—	—	75·09
,, 17...	11·4	—	—	—	—	—	—	—	2	—	4	70·0	45·0	56·5	58·4	58·0	—	3	1	1	1	—	—	—	1	—	—	76·91
,, 24...	15·7	—	—	—	1	1	—	1	4	1	1	73·0	50·2	61·2	59·2	58·6	1	2	—	1	2	—	—	—	1	3	0·51	36·08

1899. Week ending	Death-rate per 1,000 per annum.	Number of Deaths during the week from										Temperature of air during week.			Temperature of soil during week at a depth of four feet.		Wind. No. of days of								Rainfall.		Number of hours of bright sunshine.
		Measles.	Scarlet Fever	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Influenza.	Bronchitis.	Pneumonia, including Broncho-Pneumonia.	Phthisis.	Highest.	Lowest.	Mean.	Highest.	Lowest.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	No. of days on which rain fell.	Amount collected in inches.	
July 1...	14·8	—	—	—	—	3	—	—	2	—	3	75·0	51·6	62·6	60·2	59·4	1	—	1	1	—	1	2	1	—	3	0·56	59·00
,, 8 ..	14·0	—	—	—	—	—	—	—	3	4	7	74·6	53·0	63·2	61·0	60·4	2	—	—	—	—	—	1	2	2	1	0·03	59·84
,, 15...	16·1	—	1	1	—	1	—	—	4	—	1	73·8	54·0	64·6	62·2	61·0	—	—	—	—	—	4	2	1	—	1	0·01	55·83
,, 22...	7·6	—	—	1	—	—	—	2	—	1	2	82·2	52·0	68·3	64·0	62·6	—	—	3	2	—	1	1	—	—	2	0·30	82·75
,, 29...	16·9	—	—	3	1	1	—	1	2	1	4	77·6	54·0	65·7	64·8	64·0	3	—	—	—	—	2	1	—	1	2	0·24	67·59
Aug. 5 ..	16·1	—	—	1	—	—	6	—	—	—	1	89·4	58·6	72·2	65·4	64·8	—	2	4	—	—	1	—	—	—	1	0·05	83·60
,, 12..	23·3	—	—	1	1	—	11	—	—	1	4	88·8	55·0	67·7	65·8	65·4	—	2	3	1	—	—	—	—	1	—	—	66·17
,, 19...	33·9	—	—	2	—	2	30	1	—	3	3	79·8	56·2	68·5	65·4	65·2	3	2	2	—	—	—	—	—	—	—	—	70·91
,, 26...	30·9	—	—	—	—	—	39	—	1	1	9	77·6	50·2	66·4	65·6	65·2	1	1	3	1	—	—	—	1	—	—	—	87·76
Sept. 2...	34·3	—	—	2	—	4	32	—	—	4	1	76·6	54·8	64·7	65·8	65·2	—	—	—	—	—	2	4	1	—	6	0·72	54·84
,, 9...	31·3	1	—	—	—	—	24	—	1	1	5	80·8	52·6	66·0	65·0	65·0	—	1	—	—	2	—	1	1	2	—	—	66·08
,, 16...	25·8	—	—	—	—	—	19	—	4	—	5	70·8	44·0	60·0	65·0	63·8	3	—	—	—	—	—	—	2	2	2	0·12	37·50
,, 23 ..	16·1	—	—	2	—	—	9	—	—	3	2	68·6	44·6	57·7	64·2		—	—	—	—	—	1	1	5	—	3	0·21	48·99
,, 30...	17·8	—	—	2	—	—	4	—	1	1	5	65·6	39·4	55·8			—	—	—	—	—	1	3	3	—	7	2·78	32·33
Oct. 7...	15·2	—	—	4	—	—	3	—	2	—	—	62·4	41·8	55·2	*Ther*	*mo-*	1	1	1	—	1	—	1	2	—	4	1·01	25·17
,, 14..	18·2	—	—	2	—	1	2	—	2	3	4	61·8	37·2	51·0	*met*	*er*	—	1	3	—	—	—	—	2	1	2	0·05	47·74
,, 21...	13·1	—	—	2	—	—	1	1	—	1	3	63·4	38·6	52·3	*defec*	*tive.*	—	—	6	1	—	—	—	—	—	—	—	51·67
,, 28...	17·8	—	—	2	—	—	—	—	3	2	3	63·2	38·4	55·0			—	1	1	1	1	2	—	—	1	3	0·33	29·35
Nov. 4...	11·8	—	1	—	—	—	—	—	1	1	5	62·2	41·4	55·4	55·2	54·6	—	—	—	—	—	5	—	2	—	6	1·12	20·42
,, 11...	14·0	—	—	3	—	1	2	1	4	4	2	61·2	40·0	54·0	55·0	54·6	—	1	—	—	—	4	2	—	—	6	3·51	20·33
,, 18..	15·7	—	1	2	—	—	—	—	3	4	2	56·0	38·4	47·9	54·4	53·0	2	1	1	—	—	2	—	—	1	—	—	21·00
,, 25...	20·3	—	—	1	—	—	—	—	7	3	6	53·0	34·6	46·5	52·4	50·8	2	2	—	—	—	—	—	—	3	—	—	0·42
Dec. 2..	22·9	—	—	1	—	1	1	—	5	6	8	54·4	36·0	48·0	50·8	50·0	3	—	—	—	—	—	—	3	1	1	0·19	10·25
,, 9...	21·6	—	—	1	1	—	—	4	10	2	4	54·4	30·0	43·1	49·8	49·0	1	1	1	—	—	1	2	—	1	4	0·67	11·42
,, 16...	20·7	—	—	3	—	2	—	3	7	2	7	45·0	24·0	32·8	48·6	45·2	1	2	1	—	2	1	—	—	—	3	0·10	13·16
,, 23...	35·1	—	—	3	—	1	—	13	19	2	3	48·2	27·2	36·8	44·6	43·0	1	2	3	—	—	—	—	—	1	2	0·09	4·50
,, 30...	33·0	—	—	3	—	1	—	9	22	8	8	51·0	24·8	41·5	42·6	42·2	1	—	—	1	—	1	1	1	2	7	1·21	12·00
		1	10	62	19	25	191	96	211	119	180	89·4	23·2	52·4	65·8	42·2	45	51	43	16	32	58	44	36	39	133	23·42	2104·09

DEATHS FROM TUBERCULAR DISEASES.

Mean Annual Death-Rate in Brighton from Phthisis (Consumption) and other Tubercular Diseases per 100,000 Persons in Groups of Years.

	Phthisis.	Other Tubercular Diseases.
Ten years, 1861-70	295	98
Ten years, 1871-80	247	78
Three years, 1881-83	193	?
Three years, 1884-86	169	?
Four years, 1887-90	169	?
Four years, 1891-94	150	82
Four years, 1895-98	149	63
1899	146	28

The preceding table shews great improvement in mortality from this group of tubercular diseases, particularly those of other parts of the body than the lungs. This is in accordance with what is stated to me by the Surgeons at the Children's Hospital, who state that Tubercular Diseases of the glands and joints are becoming much less prevalent.

Tuberculosis is due to infection by the *tubercle bacillus* introduced from without, *viâ* the lungs or alimentary canal. Many doubtless receive the infection in whom it does not take root, the constitutional condition being unfavourable. There is no doubt that a considerable share of the improvement shewn above is due to the improved conditions as to food, clothing and housing, which have become so general as to reach, to a certain extent, to the poorer classes. There is, however, a large amount of tubercular disease still in the community. Last year it caused 149 deaths in Brighton to every 100 caused by the chief zymotic diseases, excluding Diarrhœa. It would be folly, therefore, to relax efforts to stop this terrible leakage of life. Our efforts are directed in two channels :—(*a*) To improve the conditions under which the people, and particularly the poor, live ; (*b*) To prevent the infective material entering the system, either by the lungs or stomach. It is clear that, however strongly a person may be predisposed to Consumption, he will not develope it unless he receives the seeds of disease. Actual inheritance of these seeds is so infinitesimally rare that it may be neglected.

So far as infection by the alimentary canal is concerned, milk is the most important medium. In October, 1898, it was decided to invite tenders for the supply of milk to the Borough Sanatorium under the following conditions :—

1. That the Contractor shall furnish to the Medical Officer of Health certificates from a qualified veterinary surgeon to the effect that

   (*a*) The cows from which the milk supply is obtained have been subjected to and failed to re-act to the Tuberculin test.

(*b*) That all re-acting animals have been removed from the byres, and the latter cleansed and disinfected.

(*c*) That all new cows, purchased from time to time during the period of the contract, have been similarly tested.

2. That the Contractor shall not supply milk from any other source than the one defined above, without the special permission of the Medical Officer of Health.

A tender was accepted at 1s. 4d. per gallon, and was satisfactorily carried out for a year, when it was renewed at the price of 1s. per gallon. The Committee of the Children's Hospital have, I believe, milk supplied to them under a similar contract; the Sussex County Hospital and Workhouse have not yet adopted the above condition, though I believe they are favourably inclined.

There are as yet only two or three dairymen in Brighton supplying milk from guaranteed cows. I am confident that in a few years dairymen will see that it is to their interest to insist on this condition in their milk contracts. In the meantime the public should boil all their milk, particularly such milk as is intended for delicate children. Meat from consumptive animals is probably a less common cause of tubercular disease, though few would willingly eat such meat. During last year 1 bull, 10 cows and 114 parts of beasts, as well as 13 whole pigs and 26 parts of pigs, were condemned owing to tuberculosis. The main source of infection in Phthisis is undoubtedly the expectoration of patients, which has become dried on the floor, or on pocket-handkerchiefs, &c., and is subsequently inhaled with the fine dust which is constantly being raised by movements in occupied rooms. This is the source of infection with which we are now attempting to cope more effectively. On the 9th of January, I submitted to you a form of letter which I proposed to send to the medical officers of public institutions, and to the parochial medical officers, inviting their voluntary co-operation in notifying cases of Phthisis, and a form of card of instructions which it was proposed to leave with patients. I have to thank most cordially the doctors who very kindly notified cases to me during the following seven months, thus enabling me to carry out a large amount of useful work.

Later in the year I was authorized to send out the following circular letter, after presenting to you a report on the work of the preceding seven months, which was printed as an appendix to my report for the second quarter of 1899.

Town Hall, Brighton,
August 21st, 1899.

Dear Sir,

During the past seven months a number of medical practitioners have very kindly notified to me cases of Phthisis occurring in their practice as physicians at the Sussex County and Children's Hospitals, or as medical officers of the Brighton and Hove Dispensary, Parochial Medical Officers, &c. This has

enabled me, as will be gathered from the accompanying report, to secure the removal of a considerable number of insanitary house conditions in phthisical houses, and to leave at each house a copy of the enclosed card, stating the simple precautionary measures which are desirable in cases of Phthisis.

It has been felt by me that such notifications, although completely voluntary, should be placed on the same basis as regards payment that holds good for notifications under the Infectious Disease (Notification) Act ; and the Town Council have now agreed to this for an experimental period, of the termination of which due notice will be given you, in the event of its being decided not to continue the experiment.

I beg therefore to invite you to co-operate with me in notifying cases of Phthisis occurring in your practice, where in your opinion public good can be achieved by such notification. I may remind you that even though in the individual case under your care no further precautions and no sanitary improvements are required, the official knowledge of your case may direct my attention to "infected areas," and possibly be the means of facilitating important sanitary reforms.

There will, I need hardly say, be no official interference, as the result of the notification, with your patient, either at home or in connection with his occupation, the steps taken being confined to a sanitary inspection of the house and *leaving a copy* of the card.

Trusting you will be able to co-operate in this work,

I am,

Yours obediently,

ARTHUR NEWSHOLME,

Medical Officer of Health.

This circular letter was only sent to those practitioners who were engaged in part in practice in which there was a likelihood that the co-operation of my department would be most beneficial, *i.e.*, among the poor. I think the time is now ripe for sending it out to all practitioners, leaving to them the selection of cases to be notified, if they wish to make any selection.

The first notification received under the system of voluntary payment was on September 11th, and up to the end of the year 44 such notifications had been received. The fees payable for these notifications were 15 at 2s. 6d. and 29 at 1s. It is clear that the majority of the cases notified were in hospitals or dispensary practice, and I anticipate that the greatest good from notification will occur in this class of practice. Three duplicate notifications were received.

After notification, each patient's house was visited, and a card containing the following instructions was left :—

Precautions for Consumptive Persons.

Consumption is, to a limited extent, a contagious disease. It is spread chiefly by inhaling the expectoration (spit) of patients which has been allowed to become dry and float about the room as dust.

Do not spit except into receptacles, the contents of which are to be destroyed before they become dry. If this simple precaution be taken, there is practically no danger of infection. The breath of consumptive persons is not directly infectious.

The following detailed rules will be found useful, both to the consumptive and to his friends :

1.—Expectoration indoors should be received into small paper bags or pieces of paper and burnt immediately afterwards.

2.—Expectoration out of doors should be received into a suitable bottle, to be afterwards washed out with *boiling water* ; or into a small paper handkerchief, which should be afterwards burnt.

3.—If ordinary handkerchiefs are ever used for expectoration they should be *put into boiling water before they have time to become dry*, or into a solution of a disinfectant, as directed by the doctor.

4.—*Wet* cleansing of rooms, particularly of bedrooms occupied by sick persons, should be substituted for "dusting" and sweeping.

5.—*Sunlight*, good food and *fresh air* are the most important means of preventing and curing consumption. Every patient should sleep with his bedroom window *open* top and bottom, a screen being arranged, if necessary, to prevent direct draught. The patient need not fear going out of doors in any weather, if warmly clad.

N.B.—The patient *himself* is the *greatest gainer* by the above precautions, as his recovery is retarded and frequently prevented by renewed infection derived from his own expectoration.

6.—Persons in good health have little reason to fear the infection of consumption. Over-fatigue, intemperance, bad air, dusty occupations and dirty, ill-ventilated and badly (sun) lighted rooms favour it.

An inspection of each house was made as to structural defects, and more particularly as to cleanliness, stripping wall-papers and whitewashing being ordered in a large number of instances.

A large number of Japanese paper handkerchiefs were also distributed to phthisical patients. These were obtained at the price of 8s. 6d. per 1,000, and were cut in half before distribution. They are frequently sent for again by such patients, who appreciate their value.

During 1899, the deaths from Consumption numbered 180. In 175 of these it was found practicable to make inquiries into the history and environment of the deceased. There was clear evidence that in at least 20 out of the 175, or

11·5 per cent., the illness dated from some time precedent to the time of coming to live in Brighton. In not a few cases death occurred within a few weeks after the patient came to Brighton. Such sending patients to the seaside in the last stages of disease is to be deprecated from the standpoint both of the patient and the town.

Of the 20 cases in which a definite history was obtainable, four had lived less than 1 month in Brighton at the time of their decease, one arriving a day, and one a week before death; five between 1 and 3 months; five between 3 and 6 months; three between 6 and 12 months. In the remaining three the symptoms dated from a period previous to settling in Brighton. It will be noted that this statement is necessarily incomplete. In five cases no inquiry was practicable, the majority of these being temporary residents in the town.

The line of procedure adopted after deaths from Consumption is as follows: Immediately the death return is received, the following circular letter is sent :—

Public Health Department,
Town Hall, Brighton,
1900.

Dear Sir or Madam,

In connection with the death from Consumption (Phthisis) registered as having occurred at No. , allow me to draw your attention to the important fact that Consumption is chiefly communicated from one person to another by inhaling the dust of the room occupied or previously occupied by the patient. Hence, it is most important that the house should be thoroughly cleansed, and all trace of dust removed, wet cloths being used for this purpose.

I beg to advise you that the following works are necessary in order to prevent the risk of similar cases arising in the house, viz. :—

1.—Strip the wall-paper off the wall. The paper should afterwards be burnt in the fireplace of the same room.

N.B.—The chief danger is from Dust. Hence all articles should be thoroughly wetted before cleansing them. A supply of disinfectant for mixing with the water can be obtained free of cost at the above office, at the Town Hall; *but a disinfectant is not essential if everything is thoroughly wetted.*

2.—Thoroughly wash the floors, walls, ceiling, and all the woodwork (including picture-frames) of the room.

3.—Wash all bed and body-linen and other washable articles in the room, and expose all personal apparel, bedding, pillows, &c., out of doors for several hours in bright sunshine.

Yours obediently,
Arthur Newsholme,
Medical Officer of Health.

This plan is found preferable to a visit at the house of the deceased before the funeral, which was apt to give pain to relatives. On the other hand, postponing all directions until after the funeral meant that such cleansing measures as the occupier of the house thought desirable had already been carried out, and if these were not so thorough as was necessary, it became difficult to ensure further cleansing. Now when a visit is made after the funeral it is found almost without exception that the measures detailed in the above circular letter have been thoroughly carried out ; and the inspector need only concern himself with an investigation of the history of the deceased and of the structural sanitary condition of the house.

SYPHILIS.

During 1899 the deaths of eight male and ten female infants under one year of age were returned as due to this cause, also of one man. The death returns under this head are immensely understated, immorality causing a great amount of this disease, which lurks in the system for years, and is probably, next to alcoholism, the most fertile cause of ill-health and of death in our midst. Many diseases occurring under other heads, as diseases of the brain and spinal cord, and of various other organs, are really due either to alcoholism or syphilis, although these are not mentioned in the death certificates. Syphilis (great pox) is a contagious disease just as much as is small pox, though it is spread almost solely as the result of immorality. One of its most painful features is the transmission of the disease to the innocent offspring, as in the above eighteen fatal cases among infants. It can only be diminished by the active enforcement of all preventive measures against known immorality, and by the treatment and, where practicable, the segregation of men and women who have become infected. Such segregation is probably only practicable at present in the case of bodies of men, as in a regiment of soldiers.

ALCOHOLISM.

During 1899, 29 deaths were returned as caused by alcoholism or delirium tremens. Of these, 22 were men and seven women, and only three were over 60 years of age. The deaths do not represent more than a very minute proportion of the mortality really caused by alcoholism. As a rule, the real cause is concealed behind such headings as disease of the brain or spinal cord, apoplexy, heart disease, liver disease, hœmatemesis (vomiting of blood), cirrhosis of liver, gout, Bright's disease, which, with many other diseases, are caused to a very large extent by chronic alcoholic excess.

Thirty-two deaths (14 of men and 18 of women) were caused by cirrhosis of the liver, a disease which is almost solely produced by intemperance. Alcohol has been described by a well-known physician as the "genius of degeneration." There is no other agent so competent to hurry on the degenerative changes in the system associated with old age ; in other words, *alcohol is one of the chief*

causes of premature old age. It is not sufficiently recognised that these evil effects are very commonly produced by the systematic indulgence in an amount of alcoholic drinks that would by most be regarded as moderate ; and that those who, while never becoming intoxicated, daily take a considerable amount of spirits (especially if taken apart from meals) are much more likely to suffer in health and prematurely break down than the labourer who may get drunk once a fortnight and be a teetotaller in the intervals.

RHEUMATIC FEVER.

During 1899, 11 deaths were caused by this important disease, as compared with 3 in 1898, 4 in 1897, 9 in 1896, 4 in 1895, 9 in 1894, and 6 in 1893. They represent but a small share of the mischief caused by this disease. The case mortality is low, but of those who survive, a large proportion go maimed by the heart disease which has supervened on the rheumatism.

INFLUENZA.

Influenza is an intensely infectious disease. During 1899 the number of deaths ascribed to this disease was 96, being, with the exception of 1892 and 1895, the greatest number since 1890, when, after many years' absence, Influenza began to bulk largely in the death-rate of England.

The number of deaths directly ascribed to Influenza in Brighton since it first appeared in our midst has been as follows :—

TABLE XVI.

Year.	No. of Deaths ascribed to Influenza.					No. of Deaths from Diseases of the Respiratory Organs.
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total for Year.	
1889	—	—	—	—	—	291
1890	18	5	—	—	23	417
1891	37	27	7	—	71	381
1892	143	3	1	2	149	392
1893	8	8	6	11	33	343
1894	35	5	—	9	49	321
1895	82	17	1	7	107	411
1896	11	3	1	6	21	299
1897	9	4	5	3	21	245
1898	22	4	1	6	33	304
1899	19	41	5	31	96	389

Besides the deaths returned as due to as Influenza, a considerable number returned as caused by chest ailments have Influenza for their primary cause.

The age and sex incidence of Influenza are of some importance, and for this reason the following table is introduced :—

Table XVII.

Deaths from Influenza in Brighton.

Year.	Total Deaths.	Sex.		Ages at Death.										Estimated Population.
		Males.	Females	0—1	1—5	5—15	15—25	25—35	35—45	45—55	55—65	65—75	75 and upwards	
1890	23	5	18	—	—	—	1	3	5	4	3	5	2	114,814
1891	71	29	42	5	4	—	2	2	5	8	11	23	11	115,606
1892	149	56	93	3	6	1	3	9	12	18	30	41	26	116,424
1893	33	16	17	—	1	1	4	1	10	8	2	4	2	117,833
1894	49	25	24	3	4	1	4	2	2	4	11	11	7	118,715
1895	107	38	69	6	3	1	4	3	4	9	22	28	27	119,606
1896	21	11	10	2	—	1	1	1	—	1	6	3	6	120,419
1897	21	11	10	1	1	1	1	1	3	3	3	3	4	121,401
1898	33	14	19	3	—	3	—	2	5	6	5	4	5	122,310
1899	96	40	56	4	1	3	2	4	7	11	17	21	26	123,227
Total for 10 years.	603	245	358	27	20	12	22	28	53	72	110	143	116	

It is clear that Influenza claims most of its victims among the old, 61 per cent. of the deaths from this cause occurring at ages over 55. This is one reason why Brighton suffers severely from this disease. Among the old, it lowers the average age at death, preventing death from old age, which it is the desire of most men to attain. Influenza being an intensely communicable disease, abstaining from visiting and from public assemblies while influenza is epidemic, is especially important for the old.

During the year 67 deaths were due to some form of violence. In 139 cases inquests were held, the verdicts returned being as follows :—

1.—Natural Causes		73
2.—Suicidal—		
Fall from window...	1	
Poisoning	4	
Cutting Throat	2	
Shooting	2	
Drowning	1	
Hanging	6	
Strangulation	1	
	—	17
3.—Accidental—		
Suffocated whilst sleeping with parents ...	11	
Falls	15	
Burns	5	
Scalds	1	
Blows	1	
Knocked down by train	1	
Drowning	1	
Inattention at birth	4	
Administration of anæsthetics	1	
Poisoning	1	
Run over	1	
Knocked down by pony and trap ...	1	
Suffocated during convulsive fit, accelerated by neglect of parents	1	
	—	44
4.—Open Verdict—		
Found drowned		4
5.—Homicidal—		
Cutting throat		1
Total		139

B.—SANITARY WORK OF THE YEAR.

SANITARY INSPECTIONS.

In the following tables, prepared by Mr. Skinner, the Chief Sanitary Inspector, the work of the Sanitary Department is stated, so far as it can be given in tabular form. It will be seen that 8,080 houses were visited in the course of house-to-house inspection, as compared with 9,666 in 1898, and 8,434 in 1897. This, however, does not represent the total number of houses visited during the year. Apart from house-to-house inspection, a large proportion of the time of the inspectors is occupied in attending to complaints received from householders in every part of the town. During last year 1,352 such complaints received attention, as compared with 1,186 in the previous year. In addition, 9,133 visits were made for purposes of investigation and disinfection after cases of infectious disease. In each of these cases it is the practice to take the opportunity of making a sanitary examination of the houses visited. 3,746 visits were made during the year to Slaughter-Houses, 20 to Cowsheds, 396 to Bakehouses, 1,829 to Dairies and Provision Shops. The Common Lodging-houses have received 117 visits. In 97 houses the soil-pipe has been tested by volatile tests; and 516 drains have been opened for examination. For particulars of the work see the table on the next page.

TABLE XVIII.—*Inspections during 1899.*

	1st Qrtr.	2nd Qrtr.	3rd Qrtr.	4th Qrtr.	Totals for 1899.	Totals for 1898.
Number of Streets Inspected	56	77	37	33	203	304
,, Houses and other Premises Inspected...	1899	2846	1185	2150	8080	9666
Number of Complaints attended to	226	311	464	351	1352	1186
,, Visits to Slaughter Houses ...	896	1022	980	848	3746	4452
,, Visits to Cowsheds	5	10	3	2	20	63
,, ,, Bakehouses	198	—	198	—	396	396
,, ,, Dairies and Provision Shops	394	461	333	641	1829	1600
Number of Day Visits to Common Lodging-Houses	20	15	20	28	83	65
Number of Night Visits to ditto	12	8	8	6	34	23
,, Visits in respect of Sickness ...	1296	1197	1647	1894	6034	6040
,, Visits to Fumigate Rooms ...	357	393	459	567	1776	694
,, Visits for Removal of Bedding ...	258	303	366	396	1323	651
,, Drains tested by Volatile Test ...	22	28	28	19	97	136
,, Drains Opened for Examination...	134	118	143	121	516	650
,, Visits for Sundry Purposes ...	1554	1695	1228	1068	5545	6645
,, Visits to look up Notices Served...	1669	2223	1590	2325	7807	8364
,, Attendances at Police Court ...	8	1	0	11	20	34
,, Samples Collected for Analysis ...	20	6	40	6	72	83
,, Inspections of Stables	346	348	380	219	1293	1949
,, Wastes of Water reported... ...	23	42	32	23	120	486
,, Letters sent to Schools and Public Library	349	213	105	2003	2670	2003
Meteorological Observations taken	169	169	169	169	676	676
Visits to Schools	82	91	22	110	305	325
Number of Visits to Offensive Trades ...	—	—	5	—	5	3
,, Visits under Factory & Workshops and Shop Hours Act	787	853	553	774	2967	2648
Number of Visits for Contagious Diseases (Animals) Committee	11	—	—	10	21	41
Drains flushed	—	22	23	14	59	27
Circulars delivered *re* Diarrhœa	—	10000	—	—	10000	10170
Circulars delivered *re* Sewage-Contaminated Oysters	—	—	10000	—	10000	—
Markets Committee, 1 Inspector	—	—	10 dys	—	10 dys	12 dys
Visits to Houses Let in Lodgings	144	99	53	70	366	79

The Sanitary Inspections enumerated in Table XVII. have been followed by the serving of the notices given in Tables XVIII. and XIX. A very large proportion of the work is done on the strength of verbal recommendations or preliminary "warning" notices.

TABLE XIX.—*Notices served on Occupiers during 1899.*

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total number of notices on occupiers complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To cleanse and white-wash rooms	13	10	3	4	4	14
To clear drain or soil pipe ...	3	0	3	11	11	11
To clear, repair or cleanse closet, or repair flushing apparatus or pan	169	117	52	55	55	172
To abate other nuisances ...	55	38	17	21	21	59
To discontinue keeping animals so as to be a nuisance	137	77	60	64	60	137
To abate overcrowding	71	42	29	36	36	78
To lay on water to closet ...	4	4	0	—	—	4
To abate smoke nuisance ...	3	3	0	—	—	3
Cleanse and white-wash bake-houses	160	153	7	—	—	153
Cleanse and white-wash work-rooms	18	14	4	4	4	18
To discontinue to let or occupy cellar dwellings	12	10	2	2	2	12
Cleanse premises and remove all foul accumulations	252	172	80	100	100	272
To provide covered dust bins ...	2	2	0	—	—	2
To repair drain or soil pipe ...	1	1	0	—	—	1
Totals	900	643	257	297	293	936
Total of notices served on owners	4530	2424	2106	2361	2134	4558
Total notices served	5430	3067	2363	2658	2427	5494

The increased readiness with which notices are complied with has been continued during 1899, as evidenced by Tables XIX. and XX.

TABLE XX.—*Notices served on Owners during 1899.*

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total Number of Notices on owners complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To drain into sewer and fill up cesspools	15	7	8	10	9	16
To relay drain and fill up cesspools	3	2	1	2	2	4
To relay drain	310	222	88	93	91	313
To repair drain and soil pipe ...	124	69	55	67	66	135
To trap drain	123	73	50	51	47	120
To cleanse & whitewash rooms	260	154	106	112	104	258
To clear drain or soil pipe ...	117	37	80	83	83	120
To clear, repair or cleanse closet, or repair flushing apparatus or pan	537	290	247	268	252	542
To repave yard or scullery ...	315	177	138	157	141	318
To pave and drain stables ...	3	0	3	2	1	1
To abate other nuisances ...	1649	919	730	826	733	1652
To provide covered dust bins ...	919	404	515	593	519	923
To provide premises with a proper water supply	24	15	9	8	8	23
To cleanse premises and remove foul accumulations	9	6	3	1	1	7
To provide manure receptacles	39	11	28	30	28	39
To fill up underground manure pits	31	11	20	26	23	34
To provide W.C. accommodation	4	1	3	2	2	3
To lay on water to closet ...	20	9	11	14	10	19
To alter water pipes	7	3	4	2	2	5
To cause waste pipes to discharge into outer air	21	14	7	14	12	26
Totals	4530	2424	2106	2361	2134	4558

TABLE XXI.

Date of Annual Report.	Year under Report.	Percentage of notices not complied with at time of issue of Report.
March 23rd, 1889	1888	20 per cent.
February 13th, 1890	1889	14 ,,
March 31st, 1891	1890	4·3 ,,
March 16th, 1892	1891	3·2 ,,
April 21st, 1893	1892	1·3 ,,
April 13th, 1894	1893	0·8 ,,
April 15th, 1895	1894	1·3 ,,
June 20th, 1896	1895	0·0 ,,
April 12th, 1897	1896	0·4 ,,
March 14th, 1898	1897	0·8 ,,
March 27th, 1899	1898	1·8 ,,
February 26th, 1900	1899	2·8 ,,

No summonses were required during the year for non-compliance with notices to abate nuisances.

COMMON LODGING HOUSES.

Four are at present registered, having accommodation for 167 lodgers One of these (accommodating seven men) is in the Spa Street area. The bye laws have been carried out strictly during the past year.

HOUSES LET IN LODGINGS.

Bye-laws for houses of a rateable value not exceeding £26, and having three families in them if the landlord lives in the house, or two if the landlord does not live in the house, were confirmed by the Local Government Board on 13th July, 1898, and 76 such houses are now on the register. Considerable work has been involved in measuring up the rooms in these houses, but, as in future we shall be in a position to regulate the exact number of persons for each house, and ensure the carrying out of this regulation by means of evening visits, a great evil will be prevented in houses over which hitherto no effective control could be exercised. There has already been a considerable reduction in the number of persons occupying the registered rooms.

HOUSING OF THE WORKING CLASSES ACT—PART I.

The proceedings for the clearing of the Spa Street area, comprising 172 dwelling houses, are slowly advancing, and it may be hoped that during the present year, the area will be cleared and re-housing begun.

HOUSING OF THE WORKING CLASSES ACT.—PART II.

Official representations have been made by me, under Part II. of the above Act during 1899, that the following premises are in a state so dangerous to health as to be unfit for human habitation :—

Situation of Premises.	No. of houses.	Legal proceedings taken.	Result.
Bedford Buildings ...	1	—	House put into thorough repair.
Tichborne Street ...	3	—	House put into thorough repair.
Spa Street (No. 77) ...	1	—	House put into repair.
Marine View ...	1	—	House put into thorough repair.
Woburn Place ...	1	—	House being put into repair.
Carlton Place ...	3	—	House being put into repair.
Carlton Row ...	1	—	House put into thorough repair.
John Street ...	1	—	House closed.
Chalk Farm ...	2	—	Under consideration.
Warwick Street ...	2	—	Houses closed.
St. James's Court ...	3	—	Houses closed.
Henry Street ...	1	—	House closed and under repair.
Lennox Street ...	2	—	Under consideration.

One house (No 90 Spa Street) has been demolished during 1899, the ordinary procedure being taken under Part II. of the above Act. No owner appeared, and there was therefore no opposition to the demolition.

HOUSING OF THE WORKING CLASSES ACT—PART III.

Since the date of my last annual report, progress has been made in erecting Municipal Cottages, on one of the sites presented to the Corporation in 1897. The following statement summarises the steps taken up to the present date.

In 1897, prizes of £75 and £25 respectively, were offered for the best designs for cottages. Nine architects competed, the designs being sent in on August 26th, 1897. For various reasons none of the prize designs were ultimately used in the erection of dwellings. Modified plans prepared by the Borough Surveyor were accepted by the Town Council on August 4th, 1899, and the building of the 28 cottages on the Elm Grove site, commenced about September 2nd of last year. The amount of the contract was £7,195, which sum does not include pavements, roadways, clerk of the works, &c. On the basis of the contract price the cost per house will be £256 19s. 3d.

Each house contains five rooms, of which three are bedrooms. The cubic contents of the rooms are as follows :—

Front room, ground-floor	...	...	...	917	cubic	feet	
Kitchen and scullery	...	...	...	...	805	,,	,,
Front bedroom	...	...	...	...	1237	,,	,,
Back ,,	...	...	...	...	...	670	,,	,,
Attic ,,	...	...	...	...	..	1354	,,	,,

Each of the above rooms is 8 ft. 6 in. high, except the attic, which has this height only in a portion of its extent.

Each cottage has a frontage of 15 feet.

Each room is provided with a fireplace, and the windows are large. The staircase has two windows, one on each landing. All partition walls are built in solid brickwork. The drains of the houses are entirely outside, no part passing under the dwellings. Each house has a garden at its rear, 35 feet deep and 14 feet 3 inches wide.

In accordance with the amended Building Bye-laws sanctioned by the Local Government Board, 26th May, 1897,

(*a*) The site of each house is entirely covered with cement concrete, 4 in., deep. The subsoil is chalk.

(*b*) The roof is boarded and felted under the slates.

(*c*) The total height of the external wall of each house not exceeding 35 feet, the walls up to the first floor are 13½ in. brickwork, and 9 in. above that.

A dormer window in the roof gives light and ventilation to the large and commodious attic bedroom, a fireplace also being provided in it.

The electric tramway which will be constructed as soon as Parliamentary powers are obtained, will pass close to the new houses.

Time of repayment of Loan. After great difficulty the consent of the Local Government Board was obtained on June 26th, 1899, to an extension of the time for repayment of the loan on the cost of building the houses from 30 to 40 years. This is an important concession, as a rental for instance of 8s. will be reduced to 7s. 2d. on the strength of this concession alone. The Local Government Board at first refused on the ground that the Corporation had not purchased the site.

STREET SANITATION.

Decomposing organic filth being the cause of epidemic diarrhœa, the paving of back-yards and the improved removal of house refuse do not exhaust the preventive measures which the Town Council can take. There is ample room for improvement in street scavenging, especially in the poorer streets of the town. In March, 1898, I reported to the Works Committee on the excess of the diarrhœal death-rate in certain streets of the town. The inhabitants of these streets often throw slops into them and wash their fish-carts in them, with the result that the macadam becomes sodden with offensive material, producing dangerous effluvia in hot weather. I recommended some form of tar paving for such streets. When there is little or no through traffic, and no hill, smooth granite setts might be used and would last indefinitely; both of these pavings are capable of being washed. With macadam, on the other hand, the instinct of the road surveyor appears to be necessarily antagonistic to that of the

sanitarian. The former fears to wash or scrape off detritus, while to the latter this appears to be sanitarily indispensable. For this reason macadam in narrow crowded streets stands condemned. I sincerely hope that it will be found practicable ere long to make an impervious paving for all the back streets of the town, in which the gradients do not render this impracticable. Until this is done, as well as an improvement in the removal of house refuse ensured, the Local Authority cannot be said to have done everything practicable to ensure *Municipal cleanliness*, which, just as much as personal and *domestic cleanliness* (of food and dwelling), is necessary in order to reduce the amount of diarrhœa to its minimum.

The Works Committee have considered the question of tar paving, as the result of preceding reports from your Committee to them, and the following streets have been satisfactorily paved during 1899 :—

Claremont Row, Dorset Street, Carlton Place.

During the early part of 1900, a few more streets have been tar-paved, and I hope, and have reason to believe, that before next summer the following streets, which were specially indicated in my report to the Works Committee of December 22nd, 1899, as requiring this treatment, will be carried out :—

Riding School Lane, Regent Row and passage, Woburn Place, Paradise Street, Essex Place, Crescent Cottages, Russell Place, Kent's Court, Chalk Farm and Sussex Place, Edwin Place and Cottages, Little Russell Street, Blucher Place, Ivory Place, Albion Cottages.

I have not dealt specially upon the importance of cleansing out street gully tanks, of more frequently washing the street channels, of seeing that all cab ranks are maintained in a sanitary condition. These are important matters of detail, all coming under the heading of street sanitation.

Wood Paving. A great improvement has been effected in the sanitary condition of East Street, New Road, Western Road, &c., by the substitution of wood paving for macadam. On the 26th January, 1899, I presented a report to the Works Committee on the relative merits of wood paving and macadam for streets in which there is a large amount of traffic, in which the opinions of the Medical Officers of Health for the Strand, St. George, Hanover Square, St. James, Westminster, Marylebone, and St. Pancras were quoted, all of these being of opinion that wood was more sanitary than macadam, one stating his strong preference for limmer asphalte.

REMOVAL OF HOUSE REFUSE.

In my report for the third quarter of 1899, I discussed this question in some detail, and made the following recommendations :—

Importance of co-operation between the Scavenging and Sanitary Departments.—I recommend that the Sanitary Committee ask the Works Committee to grant them an interview on the following points :—

1. To arrange for the Scavenging Department and the Sanitary Department to be brought into closer touch and co-operation.

I am not prepared with any scheme for this purpose, but it cannot surpass the ingenuity of the two Committees and their officers to devise a workable scheme which will ensure that the town receives the fullest possible benefit, both financial and sanitary, from the money which it expends upon this most important branch of house sanitation. That can only be secured by active and continuous co-operation between the Scavenging and Sanitary Departments.

2. To ask that quick-lime may be carried round with each dust-cart and placed in every wet dustbin after emptying the latter.

3. To ask that arrangements may be made for the Sanitary Department to receive immediate information as to

   (*a*) All houses in which there is a defective or no dustbin or ashpit.

   (*b*) All houses in which, for any reason, the weekly removal of house refuse is not carried out.

4. To ask the Works Committee to inaugurate a removal of house refuse twice a week in a section of the town ; and in connection with this,

5. To consider the advisability of making bye-laws under Sec. 26 (2) of the Public Health Acts Amendment Act, 1890.

(Extract from Report for Third Quarter, 1899.)

A deputation from the Sanitary Committee waited upon the Works Committee, who favourably considered the above recommendations. They decided that the Borough Surveyor be instructed to report at an early date as to the estimated cost of removal of house refuse twice a week. The matter at the time of writing (March 2nd, 1900) rests at that point. I am happy to add that under paragraph 3 of the above report, the Sanitary Department has received valuable information from the Surveyor's (Scavenging) Department. This is clear from the following comparison of the four quarters of last year.

No. of houses reported by Dust Inspector as having defective Dustbins, or without Dustbins.

1st Quarter	None.
2nd Quarter...	39.
3rd Quarter	33.
4th Quarter	153.

I hope that before another summer with its incidental and to some extent preventible mortality from Diarrhœa occurs, important steps will have to be taken in the directions indicated above.

REPORTS MADE TO THE BOROUGH SURVEYOR DURING 1899.

Encroachments on open space	17
Houses divided contrary to Bye-laws	3
Smells from sewer ventilators, street gullies and public urinals, &c.	17
Dangerous structures	5

MINIMUM SIZE OF BEDROOMS IN NEW HOUSES.

On November 22nd of last year, I presented the following report :—

Health Department,
Town Hall, Brighton,
November 22nd, 1899.

To the Improvements and Buildings Committee.

GENTLEMEN,—Some plans for new houses were recently shewn to me which illustrate very strikingly the tendency to cheapen the cost of new dwellings for the labouring classes by diminishing the size of the bedrooms.

Although it is very desirable that dwellings for the poor should be built at a cost which will allow of their being let at a moderate rental, there is a limit below which the contraction of size of the bedrooms means serious injury to the health of prospective tenants. The limit has, in my opinion, been passed in the case of a certain number of new houses, as well as in the plans which were recently submitted to you, but were not passed by you.

I think it is highly desirable that the Town Council should have power to prevent the building of bedrooms which are not large enough for two persons according to the very moderate standard in force for common lodging houses. In other words, no bedroom ought to be passed which the plans shew to contain less than seven hundred cubic feet of air space. The height of bedrooms is already regulated by the Bye-laws, and if an additional Bye-law could be obtained making the minimum size of all bedrooms 700 cubic feet, there would be secured a minimum sufficiency of floor space.

I beg to urge upon you for consideration, the desirability of adopting new Bye-laws.

1. To secure the minimum air space for bedrooms mentioned above ; and

2. To ensure that no bedroom shall be passed in which there is no provision of a fire place.

I am, Gentlemen,
Yours obediently,
ARTHUR NEWSHOLME,
Medical Officer of Health.

The matter was referred to the Town Clerk, Borough Surveyor and myself, to prepare bye-laws, and is at present under consideration.

BAD BUILDING WORK IN NEW HOUSES.

In July I reported as to houses in Roedean Road, which, although only built about two years earlier, had already fallen into a somewhat dilapidated condition, the plaster falling off some of the walls, and outer walls cracking and bulging.

One important defect was that a W.C. had been placed in the upstairs scullery, without any partition, although the plans had specified such a partition.

THE PUBLIC ABATTOIR.

1899 is the fifth complete year of working the Abattoir.

The following statement, supplied by Inspector Cuckney, the Superintendent of the Abattoir, gives the number of animals slaughtered in the public and private slaughter-houses at the Abattoir :—

Year.	In the Public Slaughter-Houses					In the Private Slaughter-Houses					Total.
	Beasts.	Calves.	Sheep.	Lambs.	Pigs.	Beasts.	Calves.	Sheep.	Lambs.	Pigs.	
1899	1409	653	5650	491	3560	—	—	—	—	4621	16384
1898	1008	503	4114	458	2645	6	11	229	31	3322	12650
1897	589	384	3077	224	2442	16	69	1145	158	3950	12054
1896	333	253	1549	201	4134	58	69	990	201	3391	11184
1895	89	95	694	113	4182	187	71	1231	329	—	6991

During 1899, about three trucks a week, containing cattle, sheep, and pigs have been unloaded at the Abattoir siding, in accordance with the arrangements made in April 1898, with the Railway Company. It still remains true, however, that five-sixths of the animals for the Abattoir, are driven through the streets from the New England Road Cattle Dock to the Abattoir, a distance of over three-quarters of a mile. This arises, as explained in my last annual report, from the fact that certain drovers who contract for bringing animals from the various country markets to the 38 private slaughter-houses in various parts of Brighton, do not separate the animals at the various markets, and consign such as are intended for the Abattoir, directly to it. It is only when this is done, that the Railway Company will deliver at the Abattoir siding. The one thing which would hasten more than anything else, the abolition of the present extremely unsatisfactory state of matters, which is a danger and source of nuisance to all the inhabitants along the line of roads traversed by the driven animals, would be the more rigid and complete enforcement of the Borough Bye-laws as to driving cattle through the street, the necessity for which, I venture to press upon your notice.

Unsound Food seized or surrendered during 1899.

Description.	No. of animals.	No. condemned by Magistrate.	No. destroyed by arrangement with owner.	Total weight in lbs.
A.—At the Abattoir—				
Bullocks (whole carcase) ...	6	—	6	5114
,, (part of carcase)...	161	—	161	2086
Calves (whole carcase) ...	2	—	2	126
Sheep (whole carcase) ...	5	—	5	262
,, (part of carcase) ...	14	—	14	33
Pigs (whole carcase) ...	24	—	24	2870
,, (part of carcase) ...	526	—	526	4364
B.—In the Private Slaughter-houses and Shops—				
Bullocks (whole carcase) ...	14	1	13	8391
,, (part of carcase)...	194	17	177	5757
Calves (whole carcase) ...	6	—	6	256
,, (part of carcase) ...	9	—	9	53
Sheep (whole carcase) ...	9	—	9	531
,, (part of carcase) ...	23	—	23	65
Pigs (whole carcase) ...	45	13	32	2975
,, (part of carcase) ...	6	6	—	33
Totals...	1044	37	1007	32916

The total amount of meat destroyed in connection with the private slaughter-houses and shops was 18,061 lbs.; at the abattoir 14,855 lbs.

All the above meat was voluntarily surrendered by the butchers after official inspection. In a considerable number of instances the butcher sent for the inspector to view the meat.

UNSOUND FOOD.

Article.	If condemned by Magistrate.	If proceedings taken.	Result.
1 bushel of pears ...	Yes.	No.	
2 rabbits	Yes.	Yes.	Fined 10s. and costs or 14 days.
28 lbs. pork	Yes.	No.	
33 witches or soles ...	Yes.	Yes.	Fined 12s. and costs.
11 Salmon trout ...	Yes.	Yes.	Fined 22s. and costs.

SALE OF FOOD AND DRUGS ACT.

Number of samples collected during the year 1899	72
,, ,, adulterated	6
,, prosecutions	4
,, convictions	4

Aggregate amount of fines ...	£15	0	0
Analyst's fees recovered ...	1	0	0
	£16	0	0

Cost of samples	£0	17	$5\frac{3}{4}$
Cost of analyses	18	0	0
Inspector's salary	12	0	0
	30	17	$5\frac{3}{4}$
Fines and Analyst's fees recovered ...	16	0	0
Net cost of working the Act ...	£14	17	$5\frac{3}{4}$

The samples collected were:—Milk 62, Butter 6, Lard 4. Of the samples of Milk, four were adulterated with added water, 17, 10, 6 and 3 per cent., and 2 were deficient in Butter fat, 20 and 10 per cent.

The Butter and Lard were all genuine.

Four Milk-sellers have been prosecuted during the year, and fines ranging from £10 to 20s. have been inflicted.

FACTORY AND WORKSHOPS ACTS.

During 1899, 2967 visits had been made; 1,613 of these being inspections, the remainder being for the purpose of serving Notices and affixing forms and the looking up of Notices served.

430	inspections	were of	Bakehouses.
62	,,	,,	Factories.
286	,,	,,	Workshops employing protected persons.
220	,,	,,	Adult Male Workshops.
232	,,	,,	Domestic Workshops and outworkers.
383	,,	,,	Premises coming under the Shop Hours Act.

During the year 76 Workrooms have been measured up in accordance with Section 1 of the Factory and Workshop Act, 1895, making a total of 800 since the passing of the Act. This requires that there shall be 250 feet of cubic space for each person in a workshop during the day, and 400 feet for each person during overtime. The Act also requires that a notice shall be kept exhibited in each room, stating the number of persons who may be employed. These notices are supplied by us on cards, which can be conveniently hung.

The following defects have been found in the course of Inspector Mills' inspections during the year. Notices to remedy these defects have been well complied with, at the present time only 6 being outstanding :—

Workshops requiring cleansing or whitewashing	34
,, overcrowded	20
,, without proper ventilation	12
,, damp and dilapidated...	4
,, without closet accommodation	5
,, without sufficient closet accommodation	1
,, without separate closet accommodation for sexes ...	1
Bakehouses requiring cleansing or whitewashing...	135
Closets with flushing apparatus defective...	31
,, defective	25
Closet pans foul	47
Closets unventilated	6
,, without water supply	10
,, choked	6
Drinking water cistern foul	3
Drains defective ... ... -	12
Drained into cesspools	4
Drains ventilators defective	4
,, choked	4
,, untrapped	14
,, traps choked and foul	5
Soil pipes defective	18
Paving of yards or laundries defective	14
Without proper dust bin	36
Waste pipes defective	14
Animals kept in dirty condition	16
Sinks leaky	4
Yards dirty	32
Foul accumulations on premises	12
Roof and rain water pipes defective	4
Premises in foul condition...	10
Houses without proper water supply	1
Urinals foul and defective	20
*Lead workers' workshops without washing conveniences ...	9
Encroachment on air space	2
	587

* Circulars left in each case.

During the year H.M. Inspector of Factories has made complaint to me in respect of sanitary defects in 24 workshops and 2 factories. These have all been attended to, and reports made in accordance with the Act to H.M. Inspector. Mr. Pearson, the Inspector for this district, and Inspector Mills have also from time to time exchanged lists of Factories and Workshops inspected during the year, this being very useful in preventing overlapping.

One factory and one workshop have been reported to the Surveyor as employing more than 40 persons on upper floors and without proper means of escape in case of fire.

SHOP HOURS ACT.

Complaints were made in respect of four shops, as to young persons working beyond the 74 hours allowed by the Act, but in each case the time was found to be under the legal amount, or the person employed over the age of 18 years. In these cases the abstract of the Act was not shewn, but they have now been affixed.

THE USE OF WATER GAS FOR DOMESTIC PURPOSES.

During 1898 I reported as follows on this subject :—

COUNTY BOROUGH OF BRIGHTON.

REPORT OF THE MEDICAL OFFICER OF HEALTH AS TO THE MANUFACTURE AND USE OF WATER GAS.

Health Department,
Town Hall, Brighton,
March 22nd, 1898.

To the General Purposes Committee of the Brighton Town Council.

GENTLEMEN,—I beg to report that on receiving your instructions to report upon the circular received from the Departmental Committee of the Home Office, as to the manufacture and use of water-gas, I placed myself in communication with Mr. Cash, the Engineer of the Brighton and Hove Gas Company. From him I have received every possible courtesy, and he has taken considerable time to shew me all the details of the manufacture of coal-gas and of water-gas.

The Brighton and Hove Gas Company began to manufacture water-gas and to mix it with coal-gas in January, 1896, and the practice has been found so economical and efficient that it is likely to be continued and extended. Putting the matter in its simplest form, water-gas is formed by passing steam over red-hot coke. By this means the water becomes decomposed, hydrogen gas and carbon-monoxide being produced.

Thus H^2O + C = H^2 + CO

(water) (coke) (hydrogen) (carbon-monoxide).

Both hydrogen and carbon-monoxide are destitute of odour. Carbon-monoxide is so poisonous that, according to the best authorities, one half per cent. in the air that is breathed produces rapid poisoning, and the inhalation of one per cent. is quickly fatal. When inhaled in smaller quantities carbon-monoxide produces headache, lassitude, and general malaise, sometimes accompanied by sore-throat. When the inhalation is continued, nausea or even vomiting is apt to follow. The hydrogen may be practically ignored in the problem; it is the effects of the carbon-monoxide that have to be considered.

Water-gas when burnt is almost non-luminous. It is therefore impregnated with hydro-carbons, derived from Russian or American petroleum. The mixture thus produced is very luminous, and by its means the mixture of coal-gas and water-gas can be kept above the 15-candle standard required by the Corporation without difficulty. The use of carburetted water-gas, I was informed, has enabled the Gas Company to remove the extra 2d. per 1,000 cubic feet of gas, which the enforcement of the raising of the standard of luminosity from 14 to 15 candles in January, 1894, had obliged the Gas Company to place on the price.

There appears to be practically no limit to the extent to which carburetted water-gas can be substituted for coal-gas, except the limit imposed by the relative cost of petroleum and of coal, and by the fact that to make the water-gas a certain amount of coke (derived from the manufacture of coal-gas) is required. The proportion of carburetted water-gas to coal-gas, in the future, therefore depends on commercial considerations.

In the last $2\frac{1}{4}$ years, since the manufacture of carburetted water-gas by the Brighton and Hove Gas Company commenced, I was informed that the proportion of carburetted water-gas to coal-gas has never exceeded 40 of the former to 60 of the latter.

Now coal-gas itself contains about 8 per cent. of carbon-monoxide, it may sometimes reach 9 per cent. Carburetted water-gas contains 24 to 28 per cent. of carbon-monoxide, say 25 per cent. It is easy to calculate, therefore, that when the maximum admixture of carburetted water-gas with coal-gas hitherto practised is made, the percentage of carbon-monoxide is *14.8*.

The arrangement for checking the amount of admixture of carburetted water-gas with coal-gas at the works are very complete. (*a*) The amount of petroleum is known; (*b*) the amount of carburetted water-gas is measured on its way to be mixed with coal-gas; and (*c*) an actual analysis of the amount of carbon-monoxide in the gas as supplied to the town is made at least weekly.

Carbon-monoxide, as already explained, is an extremely poisonous and dangerous gas. Poisoning by coal-gas is practically poisoning by carbon-monoxide. Such cases have occurred from leaky mains even when gas has not been laid on to the premises, where persons have slept in cellars or arches close to the ground. It is particularly apt to occur when the outside pave-

ment is impervious and the gas is thus directed into the room and escapes into it, owing to the fact that the flooring has not been made impervious to ground air.

The question that arises is whether the danger is materially increased by increasing the percentage of carbon-monoxide from 8 to 14·8, which is apparently the maximum hitherto attained in the Brighton mixture.

I cannot but think that this increase of carbon-monoxide represents a real increase of danger from accidental escapes or from defective fittings. Of course leaky fittings ought not to be allowed, but they are notoriously common. Assuming that the higher proportion of carbon-monoxide is to continue (with a possibility of its becoming still greater in the future), it appears to me highly desirable that the public should be warned of the danger from small escapes of mixed water-gas and coal-gas, and should be informed that many cases of headache, &c., which cannot be otherwise explained may owe their origin to this fact.

It remains to add what is to be said in favour of curburetted water-gas. The sulphur compounds in it before purification are only 4 to 6 grains, as compared with 45 to 50 grains before purification in ordinary coal-gas per 1,000 cubic feet. After purification these figures are reduced to 9 to 12 grains in the mixed gas, as supplied to the public. The proportion of sulphur allowed by the Gas Referees of the London County Council is about 20 grains. Furthermore, there being no naphthalene in carburetted water-gas, the trouble connected with the deposit of this material in gas pipes is obviated.

Although I have not the slightest doubt of the accuracy of the data supplied with perfect frankness by Mr. Cash, it is, I think, desirable that official weekly analyses of coal-gas should be undertaken, so that the Corporation may have a steady record of the amount of carbon-monoxide supplied to the town.

I have only to add that Mr. Cash informed me that the Brighton and Hove Gas Company, in conjunction with other Gas Companies, are prepared to give evidence before the Departmental Committee, and consider that they are in a position to shew that no material increase or danger is incurred by the mixture of water-gas with coal-gas, and that no damage has hitherto resulted from this practice.

I am informed that in the United States of America 80 per cent. of the total gas supplied to the public is carburetted water-gas.

I am, Gentlemen,

Yours obediently,

ARTHUR NEWSHOLME, M.D.,

Medical Officer of Health.

In March, 1899, I presented the following further report on the same subject :—

Health Department,
Town Hall, Brighton,
March 10th, 1899.

To the General Purposes Committee of the Brighton Town Council.

GENTLEMEN,—It will be within your recollection that during the past year you received a communication from the Home Office, asking for information as to the local use of water-gas. Acting on your instructions, I subsequently reported on the subject to you, and my report having been sent up to Whitehall, I was asked to give and gave evidence before the Departmental Committee, then sitting, on this subject.

The report of this Departmental Committee has now been issued, and as it contains matter of serious local importance, it is desirable that your attention should be specially called to it.

Mr. Cash, the Engineer to the Brighton and Hove Gas Company, who also gave evidence before the Committee, stated that the highest admixture hitherto of water-gas with coal-gas at the local works had not exceeded 43 per cent. on any occasion. This would mean that the amount of the extremely poisonous gas, carbonic-oxide, which is the chief constituent of water-gas, had never been more than about 17 per cent. of the total gas supplied.

I have, during the last month or two, made seven or eight analyses of the coal-gas supplied to the Technical School, and have found the recent proportion of carbonic-oxide to vary from 13 to 15 per cent. (as against 7 per cent. in ordinary coal gas).

Mr. Cash made the important statement before the Committee that he would not hesitate "if necessary, to supply pure carburetted water-gas and take the responsibility on the part of the Company," but that he would in this case "give much greater attention to the fittings in the town." He added "in the future we shall use carburetted water-gas to a much larger extent."

The above statements appear to me of very serious importance, as the evidence before the Departmental Committee proves that the danger of poisoning rapidly increases with the increased addition of carbonic-oxide in water-gas. In Massachusetts, the fatal cases have rapidly multiplied since the use of water-gas became general.

The argument on the other side is, that if a gas-light in a bedroom is blown out during the night, or if the gas is accidentally turned on again after the light has been extinguished, a fatal result will equally ensue to those sleeping in the room whether it is coal-gas or this mixed with carburetted water-gas. Thus in Brighton a fatal result, it is stated, would be equally likely to occur with 7 per cent. or 15 per cent. of carbonic-oxide. The very careful experiments made by Dr. Haldane, F.R.S. (as well as American experience) shew that this is quite incorrect. "The danger, in fact" says the report of the Departmental Committee "increases at a much greater ratio than the proportion of carbonic-oxide" and they recommend that at night the proportion of carbonic-oxide in the

public supply should be limited to 12 per cent., or such greater amount as a Central Department may consider desirable.

This conclusion has been unanimously reached after a very exhaustive examination of the evidence given on behalf of the Gas Companies, as well as that from other quarters. It is one of great importance to the public safety in Brighton, as the amount of carbonic-oxide in the mixed gas supplied to Brighton more frequently amounts to 15 per cent., considerably above the limit of comparative safety assigned by the Departmental Committee.

I beg to recommend that negotiations be entered into with the Brighton and Hove Gas Company, asking them whether they cannot undertake that the night supply of coal-gas shall not contain more than 12 per cent. of carbonic-oxide. This is the most essential point arising out of the report of the Departmental Committee.

A number of subsidiary recommendations are made by the Departmental Committee, and if your Committee consider it advisable to approach the Gas Company on the above very important question, it would be well to include some of these minor points in your negotiations with the Company. I have, however, refrained from entering upon them at present, in order that the one essential point may not be overshadowed.

I am, Gentlemen,
Your obedient Servant,
ARTHUR NEWSHOLME.

This report was forwarded to the Manager of the Brighton and Hove Gas Company, and the following letter received in reply :—

Brighton and Hove General Gas Co.,
Hove, Brighton,

DEAR SIR, *April 11th*, 1899.

Water Gas.

Your letter of the 28th of March, together with the report of your Medical Officer of Health, has been laid before my Directors, and I am instructed to inform you that they do not admit the correctness of the inferences drawn by your Medical Officer, from the evidence given before the Departmental Committee. The report of this Committee cannot be taken to be of a conclusive character, but should any statutory provisions result therefrom, the Company will act in strict conformity with them.

I am, Dear Sir,
Your obedient Servant,
JOSEPH CASH,
Engineer and General Manager.

F. J. Tillstone, Esq.,
Town Clerk, Brighton.

The matter now stands at that stage. It is important that the public should be made aware of the increased danger now associated with leaks from gas pipes and taps. I think also that opportunity should be taken to press on the Government the importance of giving effect to the report of their Departmental Committee.

C.

REPORT ON THE WORK OF THE MUNICIPAL HYGIENIC LABORATORY.

Active work in this laboratory commenced in November, 1897. The work in connection with it has increased to an almost embarrassing extent. Thus in the fourteen months ending with December, 1898, the following number of examinations were made as compared with the number in the twelve months of 1899 :—

		1897-8 (14 months).	1899 (12 months.)
Widal-Grüber test for Typhoid Fever ...		164	153
Bacteriological Diagnosis of	Diphtheria	414	2033
	Phthisis	21	47
	Other Diseases	2	—

Diphtheria.—The numbers for 1899, particularly under the heading Diphtheria, are exceptionally large. They do not all represent cases of Diphtheria. Of the total 2,033 swabs taken, 1,429 failed to shew the presence of the Klebs-Lœffler bacillus. A majority of them were taken from patients admitted into the Scarlet Fever Wards, with the view of preventing the occurrence of secondary infection by Diphtheria among the Scarlatinal patients. There is reason to believe that by this means, a considerable amount of post Scarlatinal Diphtheria was prevented. Patients admitted to the Scarlet Fever Wards, who shewed the presence of the Diphtheria bacillus, were at once transferred to a special ward.

Of the Diphtheria swabs taken, 329 were sent by medical practitioners. The results obtained were as follows: 90 positive, 220 negative, 19 doubtful. In November and December, in connection with the epidemic of Diphtheria, 101 swabs were taken by me or by Drs. Martin and Hewitt from children in suspected houses or school classes, who were not being attended by doctors. The results were as follows:—positive, 12; negative, 86; doubtful, 3. A considerable number of cases of Diphtheria, which would otherwise have entirely escaped detection, were, as the result of this investigation, isolated and prevented from spreading infection.

The number of swabs taken from patients in the Sanatorium was 1,603. Each Diphtheria patient was swabbed at least twice, once on admission and once on discharge, the discharge being made dependent on freedom of the throat mucus from the Diphtheria bacillus. Each Scarlet Fever patient, as above indicated, was

swabbed on admission, and every Scarlet Fever patient developing a sore throat during convalescence was similarly examined. Of the 428 positive swabs obtained from the above 1,603 examinations of in-patients, 53 occurred in cases of Scarlet Fever.

During the year, 153 examinations of blood for Typhoid Fever were made, 144 of these for practitioners in the town. Of these 144, 74 positive, 62 negative and 8 doubtful results were obtained. The remaining 9 Widal examinations were of patients admitted for Typhoid Fever. Two of these were negative, one patient having Influenza and the other Pneumonia.

The Technique of the serum or Widal re-action was as follows:—

(1) *Method of collecting blood.*—Small sterile glass pipettes with central bulb, sealed at both ends, are supplied to the practitioners in tin boxes, with instructions. No special antiseptic precautions are taken in collecting the blood. The specimens are left at the Town Hall, or forwarded by post direct to the Laboratory, Borough Sanatorium, Brighton.

(2) *Preparation of cultures.*—An agar culture of the *bacillus typhosus* is renewed monthly. From this, sub-cultures in broth are made and incubated at 37° C. for 10-18 hours. The broth is made according to ordinary methods, but special care is taken as to re-action. The method adopted is as follows:—Solution of Sodium Carbonate is added until the broth reacts alkaline to phenol-phthalein. Then 3 per cent. of normal hydrochloric acid solution is added. This method is used, as the re-action of phenol-phthalein is much sharper than that to litmus, and it acts equally well with potassium or sodium salts, while litmus re-acts nearly neutral to Na_2 H PO_4 and acid to K_2 H PO_4.

(3) *The serum reaction.* Two dilutions are employed, 1 in 10, and 1 in 25, the dilution being measured by drops from a minute platinum loop. A definitely positive diagnosis is not given unless there is complete clumping within 30 minutes, with 1 in 10 dilution, and almost complete in the 1 in 25 dilution, to avoid any fallacy, on the interaction of the paracolon group. It will be remembered that the paracolon sera (*e.g.* of a case of infection by Gaertner's bacillus) give a positive reaction with low dilutions of *bacillus typhosus.*

The Widal-Grüber reaction has proved of high value in the diagnosis of doubtful cases of typhoid fever. Its utility has certain limitations, which, as well as its value, are brought out by the following illustrative cases:—

(a) *Cases in which the medical practitioner was of opinion that the illness was not typhoid fever, but as a precautionary measure sent a specimen of blood; or where a specimen of blood was sent at my request.*

Arthur D., aged 21 years, began to be ill on March 31st, he was seen by a doctor soon afterwards, and on the 5th of April, a specimen of blood was taken from the patient, although the doctor was of opinion that the case was one of Influenza. The doctor in question was familiar

with the work of the bacteriological laboratory, and took the specimen of blood as an extra precaution. The patient was admitted to the Sanatorium on the 6th of April, and his illness ran the usual course of typhoid fever.

Miss G., aged 25 years, a shop assistant, began to be ill on 5th June. On the 20th, her doctor sent a specimen of blood, which gave a good re-action. When the result of the examination was telephoned to him, the doctor expressed great surprise, although he had sent the specimen as an additional precaution. The patient was admitted to the Sanatorium next day and her illness ran a typical course. The evidence of origin clearly pointed to infection by oysters.

William C., aged 24 years, began to be ill on 28th April. On the 8th of May, his doctor sent a specimen of blood, which gave a positive serum re-action. On the 10th, the doctor called to say that he thought the certificate must be erroneous, as the temperature was now normal, although the patient had only been ill 11 days. The patient was admitted to the Sanatorium on the same day, and subsequently had a well-marked relapse of typhoid fever. As the patient was admitted with a ravenous appetite, and greatly objected to a restricted diet, it is not unlikely that the positive serum re-action saved his life. The evidence of origin clearly pointed to infection by oysters. A companion who ate oysters with him had an attack of vomiting, without subsequent symptoms.

(b) *Cases which remained entirely undiagnosed during the attack, but were subsequently diagnosed by the serum re-action.*

Alice T. was admitted to the Sanatorium on the 15th July, the 6th day of an attack of typhoid fever. On investigating her case it was found that she had been recently helping to nurse her brother aged 13. This boy had been ill for over a month, with "congestion of the lungs." On visiting the boy, permission to obtain a specimen of blood from him having been first obtained from his doctor, he was found extremely emaciated, but with a normal temperature; his blood gave a typical serum re-action. He was admitted to the Sanatorium as the home conditions for convalescence were unfavourable..

(c) *Cases in which the serum re-action made an unusually early diagnosis practicable.*

Walter R., aged 16 years, began with typhoid fever on the 13th July. On the 18th, a specimen of blood was taken with a positive result. The patient was admitted to the Sanatorium next day, and the subsequent course of the attack confirmed the above date of onset. On the 24th June, he and a companion bought sixpenny-worth of oysters from a

street barrow; the patient ate five, the companion, who has remained well, ate three. The house drains were good, and no other source of infection could be detected.

(d) *Cases in which the serum re-action failed to help.*

Frank B., aged 34 years, began with a very slight attack of typhoid fever on or about the 15th May. A specimen of blood from him on the 25th May, gave a negative result, and a second specimen, on the 29th May, gave very slight clumping with a dilution 1-10 at the end of half-an-hour. A third specimen of blood, later on, reacted in the usual way.

Phthisis.—The number of specimens of sputum sent by practitioners during 1899 was 47. In 17 of these the tubercle bacillus was found.

Water Analyses.—The following number of samples of water were quantitatively analysed during 1899:—

Well.	No. of Samples.
Lewes Road	62
Goldstone	53
Patcham	12
Shoreham	11
Mile Oak	6
Aldrington	6
Total ...	150

D.—BOROUGH SANATORIUM.

The following table gives a summary as to patients treated in the Borough Sanatorium during 1899 :—

TABLE XXII.

Number of Patients during 1899.

DISEASE.	Remaining in the Hospital on Dec. 31st, 1898.	Admitted during 1899.	Total number treated during 1899.	Number discharged during 1899.	Number who have died in the Hospital during 1899.	Remaining under treatment on Dec. 31st, 1899.
Scarlet Fever...	47	706	753	627	6	120
Enteric Fever...	7	108	115	91	18	6
Measles ...	—	—	—	—	—	—
Diphtheria ...	43	487	530	456	38	36
Small Pox ...	—	—	—	—	—	—
Other Diseases	—	3	3	—	3	—
TOTALS ...	97	1304	1401	1174	65	162

In the following Table the number of admissions for each disease for each year, since the opening of the Sanatorium, is compared :—

Table XXIII.

Number of cases admitted each year to the Sanatorium.

Disease.	1881 (four months)	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899
Scarlet Fever ...	23	88	56	157	73	102	147	106	297	162	114	276	352	227	151	204	265	306	706
Diphtheria ...	...	1	...	2	3	3	11	10	5	5	12	43	33	54	90	59	103	223	487
Convalescent Diphtheria ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	5	...	...
Typhoid Fever ...	20	5	27	17	12	12	16	48	61	5	4	26	14	11	11	40	74	85	108
Measles	...	2	9	3	2	4	11	6	83	9	16	1	4	1	15	10	2	2	...
Rötheln (German Measles) ...	..	1	1	...	...	...	...	...	...	...	...	...	1	1	...	..	..	...	...
Small Pox ...	21	16	...	2	1	5	...	...	1	...	...	...	9	3	5	4	...	...	...
Erysipelas ..	...	1	...	...	...	...	...	...	...	...	...	...	2	...	1	2	...	...	...
Whooping Cough	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Diarrhœa... ...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	..	1	...	...	...
Chicken Pox ...	..	...	...	...	1	...	...	1	...	...	...	...	1	1	1	...	...	...	..
Other Diseases ...	...	...	...	...	...	..	...	1	...	3	6	6	3	4	3	5	2	3	3
Quarantine ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	6	...	...	...
Totals ...	64	114	98	181	92	126	185	172	447	184	152	352	419	302	284	350	451	619	1304

The results of treatment for several years are shown in the following table :—

TABLE XXIV.

DISEASE.	Mortality per 100 cases of each Disease under treatment.								
	1891	1892	1893	1894	1895	1896	1897	1898	1899
Scarlet Fever	3·3 (148)	2·8 (284)	2·5 (415)	1·2 (279)	2·7 (163)	2·1 (199)	3·7 (268)	2·0 (306)	1·1 (669)
Enteric Fever... ...	0 (5)	14·8 (28)	18·2 (14)	14·3 (17)	20·0 (12)	12·7 (39)	19·2 (73)	12·9 (85)	16·6 (108)
Diphtheria	8·8 (12)	14·3 (44)	3·3 (33)	17·6 (56)	7·6 (96)	7·8 (71)	5·6 (107)	7·8 (204)	7·8 (490)
Measles	0 (3 16)	0 (1)	0 (4)	0 (1)	0 (15)	10·0 (10)	0 (0)	0 (2)	0 (0)
Small Pox	—	—	0 (9)	0 (3)	0 (5)	0 (4)	0 (0)	0 (0)	0 (0)

NOTE.—The small figures show the total number under treatment for each disease. It is important to have regard to them, as percentages based on small numbers are relatively less trustworthy.

* The case mortality (fatality) is calculated by dividing the deaths multiplied by 100. by half the sum of the admissions, discharges and deaths for the year.

The following table gives the number of patients for whom payment was claimed, and the amount claimed in each case.

TABLE XXV.

By whom Payable.	Number of Patients.	Amount Payable.
		£ s. d.
Brighton Board of Guardians...	12	29 8 0
Private Patients...		326 10 4
Disinfection, and hire of van for Patients not removed to Sanatorium		2 5 0
		358 3 4

In 1896 the amount payable for patients was £154 10s. 8d., in 1895 £243 8s. 6d. At the end of 1891 it was decided to abolish all payments for patients in the general wards, except for parochial patients, for whom the Board of Guardians pay 7s. 6d. per week for children under 10, and 15s. for others.

The items in the following statement have been furnished by Mr. Stevens. the Borough Accountant :—

Expenditure at Sanatorium.

	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries and Wages—									
Medical Officer	150 0 0	150 0 0	150 0 0	150 0 0	150 0 0	177 6 0	150 0 0	150 0 0	150 0 0
Matron and Steward	59 19 3	64 11 6	59 19 3	59 19 3	76 17 6	79 19 0	79 19 0	79 19 0	79 19 0
Nurses, Porters and Servants ...	326 18 9	422 12 10	435 9 2	421 6 8	416 14 7	431 7 2	499 19 5	610 19 6	1073 13 6
Groceries, Provisions, &c.	616 14 11	886 5 5	1092 17 6	821 10 4	713 6 10	730 13 9	941 6 2	1140 9 5	2251 8 6
Medical Sundries and Disinfectants ...	14 9 5	52 11 1	52 2 4	42 10 10	36 19 4	42 0 11	75 17 8	133 1 1	243 1 4
Drapery Goods (including Uniforms) ...	43 3 6	70 2 6	48 8 4	67 15 6	59 14 7	84 19 4	102 13 7	204 0 4	266 3 8
Lighting and Heating	228 15 1	300 8 9	339 14 4	323 19 5	401 8 3	254 15 7	296 19 2	434 1 4	717 0 5
Rates and Taxes (including Water Rate)	35 5 0	37 5 0	37 5 0	38 10 0	41 1 8	44 1 8	43 1 8	49 1 8	59 12 9
Fire and Boiler Insurance	18 13 2	17 11 6	17 11 6	17 11 6	17 11 6	17 11 6	17 11 6	18 4 6	23 19 6
Printing, Stationery and Advertising ...	15 3 11	15 16 3	12 9 7	15 1 1	14 5 10	11 18 9	10 14 8	36 5 8	37 6 9
Hose, Hydrants and Fitting	41 0 0	—	—	—	—	—	—	—	—
Repairs, &c.	100 6 1	140 17 0	70 10 0	59 1 11	16 14 0	9 7 0	27 6 6	210 8 5	104 19 3
Miscellaneous...	51 0 4	85 11 2	126 2 4	127 9 3	94 14 10	77 5 7	96 18 2	132 12 3	106 7 2
Fees to Surgeons	8 8 0	6 6 0	2 2 0	—	15 2 9	10 10 0	4 4 0	8 13 0	18 16 0
Hire of Institution Nurses...	3 4 6	—	37 1 1	15 7 6	8 15 9	45 2 6	28 13 9	43 12 3	106 15 0
Gardener, Garden, Sundries and Manure	—	40 14 10	44 10 10	94 18 0	112 1 1	123 11 5	113 9 4	216 3 2	611 13 2†
Total Expenditure in the Year ...	1713 1 11	2290 13 10	2526 3 3	2255 1 3	2175 8 6	2140 10 2	2449 6 8	3467 11 7	5850 6 0
No. of Patients in the Year	184	352	419	302	284	350	451	619	1304
Total No. of Weeks spent by above Patients and by Staff‡ in the Sanatorium	1095	2164	3031	2119	1517	1887	2498	3260	7006
Total Cost per week for each Patient, including all the Working Expenses	s. d. 29 3	s. d. 21 2	s. d. 16 8	s. d. 21 3	s. d. 28 8	s. d. 22 8	s. d. 19 9	s. d. 21 3	s. d. 16 8

†Including £365 5s. 5d. for asphalting paths.

‡The estimate is based on staff *plus* patients, as it has not been practicable to separate the accounts for the two.

ARRANGEMENTS AS TO THE RECEPTION OF PATIENTS FROM OTHER HOSPITALS.

In February, 1899, I reported that occasional difficulty had arisen in connection with the admission of surgical patients from the Children's Hospital especially those who had developed Scarlet Fever after burns or scalds. Such cases are generally septic in character, and it was desirable that they should be separately treated. After negotiation with the Committee of the Children's Hospital, it was agreed that they should pay for the special nursing required when patients admitted from the Children's Hospital were in such a condition as to require this. It should be added that a certain proportion of patients thus transferred to the Sanatorium come from rural districts, and that no claim for payment by the rural sanitary authority in such cases can be established. So far as cases admitted to the Children's Hospital or the County Hospital from Hove are concerned, there is a working arrangement based on the following resolution passed by the Sanitary Committee of the Hove Town Council and confirmed by the Brighton Sanitary Committee on 8th August, 1895 :—

"That on receipt of notification by the Medical Officer of Health for Hove from the Medical Staff of either the County Hospital or the Children's Hospital, Dyke Road, that a patient recently admitted to their Hospital from Hove is suffering from an infectious disease, and requesting the removal of such patient, the Medical Officer of Health be instructed to give directions for the case to be removed to the Hangleton Hospital.

"That the Medical Superintendent and Matron of the Hangleton Hospital be instructed to admit the patient and treat it as in other cases.

"That a copy of this resolution be forwarded to the Secretaries of both Hospitals, with an intimation that the responsibility of the patient being able to be removed is to rest with the Medical Staff of the Hospital, and that a certificate to this effect be sent to the Medical Officer of Health for Hove in each case.

"That a copy of the foregoing resolution be communicated to the Sanitary Committee of Brighton, with an intimation that this Committee are willing to recommend their Council to enter into a reciprocal agreement with the Corporation for the maintenance in the Brighton Sanatorium or the Hangleton Hospital, as the case may be, of any case of infectious disease found in the Hospitals of either town which cannot be removed to their proper location, and that the Sanitary Committee be asked to submit draft agreement for consideration of this Committee."

DISINFECTION.—The following is a statement of the disinfecting work carried out during 1899 :—

761 mattresses.
745 beds.
2,223 blankets.
12,724 other articles.

Number of journeys with Ambulance to Sanatorium	..	...	1,167
" " " Hospitals	...	...	14
" " Van to Sanatorium with infected articles		...	686
" " Van from Sanatorium with disinfected articles		...	598
			2,465

The work of disinfecting, although carried on at the Borough Sanatorium, may be regarded as a separate department ; it completely occupies the time of one disinfector, and occasionally of two.

COUNTY BOROUGH OF BRIGHTON.

The public are warned against eating oysters, mussels and cockles derived from sewage polluted sources.

Serious illness is frequently caused by neglect of this precaution.

(Signed) ARTHUR NEWSHOLME,
Medical Officer of Health.